

ALASKA

AN EMPIRE IN THE MAKING

JOHN J.
UNDERWOOD

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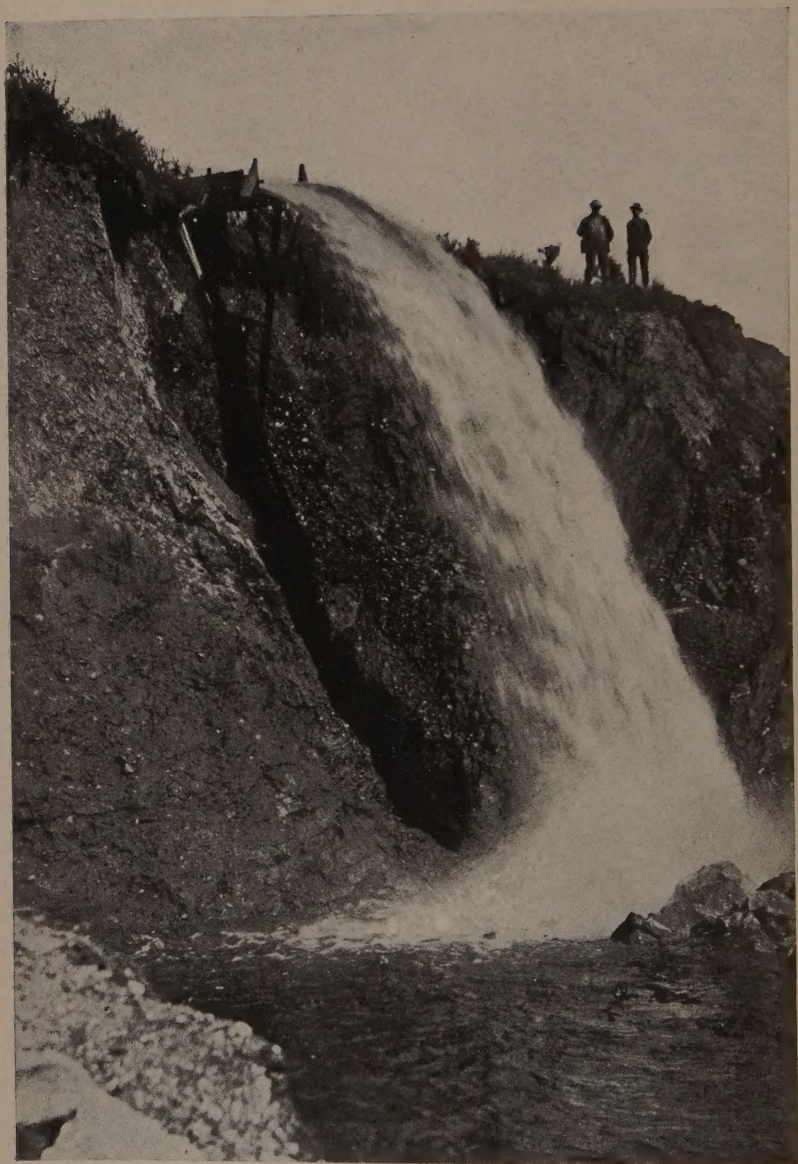


Photo by Dobbs.

LETTING THE WATER DO THE WORK. GROUND SLUICING ON
DANIELS CREEK, NEAR NOME, ALASKA

ALASKA

AN EMPIRE IN THE MAKING

BY

JOHN J. UNDERWOOD

WITH NUMEROUS ILLUSTRATIONS
AND A MAP

*"I hear the tread of pioneers,
Of millions yet to be;
The first low wash of waves where soon
Shall roll a human sea.
The elements of empire here
Are plastic yet and warm,
The chaos of a mighty world
Is rounding into form."*

—Whittier

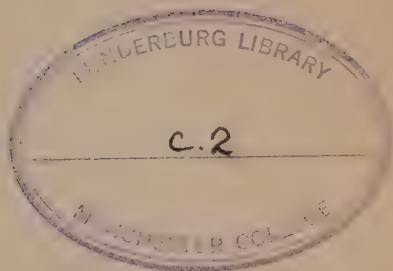
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THOSE GOOD FELLOWS
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ACKNOWLEDGMENT

The information contained in this book was gathered during an almost continuous residence of fourteen years in Alaska and the Yukon Territory. Much of this time, it is true, was spent in fishing, hunting, exploring, mining, and various ways other than the acquisition of data. But what has been written is as accurate as it is humanly possible to make it. The writer's notes and observations have been checked up with government reports and other official documents, and the works of Alfred H. Brooks, Chief of the Geological Survey in Alaska, Skidmore's "History of Sitka," Dall's "Resources of Alaska," Senator Sumner's speech on the resources of Alaska, and various documents in the state, treasury and other departments of the government have been freely consulted.

It is hoped that it will serve not only as a guide for tourists and sightseers who visit the Northern wonderland, but also that it may contain matters of interest to the stock raiser, the farmer, the miner, the prospector, the investor, and those who may go to Alaska for purposes other than sight-seeing.

A few of the photographs herein reproduced were taken by the writer, but the majority of them represent the work of several professional photographers situated in different parts of the Northland.

FOREWORD

THE LURE OF THE NORTH

Blood red, like a gigantic ball of fire, the sun was sinking to rest behind the filmy cloud of sulphurous smoke that zephyred lazily from the summit of Mount Katmai. Its rays suffused the snow-capped crests of adjacent peaks with shimmering pink and purple hues, as of millions of scintillating gems reposing on a bed of white velvet. Like one hypnotised, an Indian gazed at the scene, magnificent beyond description. An officer of the law touched the savage upon the arm.

"Come," he said.

The Indian turned.

"Here all things began and here all things will end," he murmured in the guttural of his native tongue. "Here the world was made: here have I lived, here have my fathers lived before me, here would I make my home, here would I die. But now the Indian is as the moon and the white man as the stars. The paleface says I must go. Yet I shall return."

.
The Lure of the North was in the savage breast. Like the white man who had come into his country and who, slowly, surely, was blotting his tribes from off the earth, the son of the wilderness had absorbed the spirit of his surroundings. The difference between them lay in that the Indian knew his return was inevitable. Intuitive was the knowledge in his primitive mind that he would not be able to resist the unconquerable yearning which compels those who have lived in Alaska ever to turn their faces and footsteps towards the North.

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As surely as each spring the sun returns to break the fetters that shackle lake and river, the wandering Alaskan, when the trees begin to bud, remembers that wild roses grow beneath the snow drifts; that nestling in the bosom of Mother Earth are sleeping forget-me-nots, anemones and violets, waiting to be awakened by the life-giving breath of Chinook winds and warm rains into velvety fields of fragrant blossoms.

As the salmon returns each spring to the stream of its nativity, as the myriad migratory birds each year seek again their nesting grounds in the wilderness of marsh and lake and in the cool waters of the Northland's million streams, the Alaskan feels the insatiable desire to trek back into the realm where the midnight beholds the sun and knows not stars nor darkness.

He thinks of the trout and greyling leaping in the eddies and the dark silent pools. He hears the chattering and laughing of a thousand little brooks and rills as they rush gaily over the stones to mingle with the rivers. He scents the pungent fragrance of the dank undergrowth crushed beneath his moccasined foot as he treads the shadowy depths of the primeval forests. In his ears rings the call of the moose at twilight. In fancy he sees, afar on the high peaks, wild goats and sheep with their gambolling young. Through the heavy, green foliage of the forest, he may catch a glimpse of a frightened black bear or woodland caribou. Or, perhaps, he may meet a snarling and ferocious grizzly as he strolls in his homesick day-dream along the trails of the silent Northland.

He dreams, too, of a purling stream, whence he garners in a pan the yellow, glinting gold. He hears the rhythmical swish-swash of water slopping in his rocker or gurgling through his sluice-boxes. In the early morning, when the pine trees make long shadows, he feels the sting of frost in his nostrils as he listens to the spruce hen clucking for her chickens or the partridge drumming for its mate.

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Never yet has lived the expatriated Arctic Brother who has not wondered why he ever came to pant and toil beneath brain-baking suns and choke his lungs with the dust of hot, stifling streets. What madness could have induced him to exchange the God-given, pure air of the North for the foul atmosphere of the city?

Satiated, then forgotten, is his desire to see and feel the novelties and taste the luxuries of the great outside world — the white lights, the crowded avenues, the theatres, the motor cars, the thousand and one things that man's ingenuity has devised to pander to the pampered appetite of civilisation. He has seen them. But he has seen, too, the lack of opportunity, the distress, the worry, the oppression, the heart-breaking poverty; and, with a deep and abiding disgust for the selfishness, shallowness and meanness of it all, he turns again to his beloved Northland.

The greatness — the bigness — of Alaska calls to him. The great glaciers, weird and ghost-like, relics of past ages; the towering mountains; the mighty rushing rivers; the vast expanse of snow and ice; the phantasmagoria of the Northern Lights; the largeness of heart and broadness of mind of the people; the richness of the prizes that may there be won — these are the things that ever lure him back to the North.

Bigness is the dominant note of Alaska's scenery. Bigness is the dominant note in the hearts and minds of Alaska's people. It is a land of big mountains, big rivers, big forests, big glaciers, big distances, big men. It is no cradle for the puny nursling, for Alaska's way of rearing her young is inexorably cruel. She kills and maims and drives to madness the weaklings who seek to become her foster children. The death sting of her fierce blizzard strikes to the heart and her iron cold chills the brain. She allows only the strongest, the bravest, the fittest, to survive.

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Her moods are as varied as her scenery. Her glaciers, far larger than the far-famed ice fields of the Alps, now thunder in their progress like duelling batteries of heavy artillery; or lie still, dull grey or steely blue, covered here and there with age-old accumulations of débris. Their mood is that of desolation and death.

The shimmering waters of her lakes—lying sometimes 'neath fleecy clouds in the open, sometimes in the shadows of overhanging, frowning mountains—change in their pellucid depths from blue to violet, then to dark green and black, and again to heliotrope, pink and gayer colours, soothing, saddening and cheering by turns.

The precipitous mountains, lifting their rugged heads above the clouds in mighty majesty, or showing their gaunt outlines through the eddying mists like dancing skeletons, are funereal, repellent, mysterious, stern. The lonely wanderer shrinks into insignificance before their contemptuous grandeur. No bright fancies are linked with their memories. Their very names tell their story. Hope-deserted prospectors bitterly have called them Starvation Peak, Death's Head Rock, Poverty Point, Mount Weariness, Mount Disappointment, Mount Despair.

The forests, in places impenetrable through rank, half-tropical undergrowth, seem to stifle a sad story of past magnificence. In their gloomy gorges brood the spirits of regret and remorse. Few tender recollections linger in their dark canyons. They are fear-inspiring in their sombre shadows. Yet, in other places, Nature paints the woodland in her brightest colours. White silver birch and quaking asp mingle with grey poplar and larch and dark green spruce and tamarack, with here and there a gigantic cedar standing like a silent sentinel and throwing its black shadows into limpid lake or fjord. Verdure stretches down to the water's edge. Feathered songsters warble sweetly as they flit, in their bright plumage, from

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tree to tree. Fragrant odours arise from the carpets of moss and the hearts of millions of exquisitely coloured wildflowers. On the fringe of the jungle, broad, verdant plains are covered with a luxuriant growth of wild grasses. Thus it is that the Northland speaks to the soul of the life and happiness that abounds in a land of plenty.

Her rivers, like her forests, are contradictory. Kissed by summer's suns and fed by winter's snows, they come tearing down canyons like herds of wild and frightened horses, tossing high their foaming spray to warn the impudent voyageur who would dare their fury in his flimsy canoe. Others flow serenely over sandy bottoms, clear and sparkling, like sheets of silver. At times they are peaceful, calm. Again they have the strength of Titans.

Sometimes Alaska becomes terrifying. And man, and bird and beast — even her own wild ones — flee before the tempest of her convulsions. Smoke and flame belch from her mountains. Inky clouds, broken only by the lurid volcanic fires and the darting flash of lightning, forbid the sun. The air reverberates with the crash of thunder and the booming of Nature's artillery beneath the earth; and the seas boil and hiss as the incandescent rocks plunge into their depths. The earth shudders and gasps as the top is hurled from some giant peak or mammoth glacier is jarred from the couch where it has rested for centuries. Perhaps, to the accompaniment of terrific detonations, an island rears its head of red-hot, glowing rock through swirling clouds of steam from the bed of an Arctic sea. Another island, perhaps, sinks into the depths, and ships sail over the spot where once it lay and the lead can find no bottom.

Northward of the Yukon fierce winds sweep savagely across the dreary, barren tundras. The "musher," doggedly struggling against the blinding storm, stands out in the dim light of

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the Arctic winter, unreal, intangible — something apparently animated, and yet grotesque and ghost-like. In the dark, silent season, when the wolf-dog lies down in the snow and howls at the icy moon and when the aurora suffuses the heavens with a million darting, scintillating, iridescent rays, the winter traveler in the North — as the wind bites cruelly through his thick furs — feels that he is alone and deserted; that death lies in wait for him around the next bend in the trail; that he, like others, who have dared the Northern blizzard, will be found stark and cold on the frozen plain when the spring sun melts his winding sheet of snow.

Alaska is the land of ever-changing impulses, but in all her moods she engenders strength and virility. When the Northerner is wandering through sylvan scenes, where brooks are babbling, where the sun is shining overhead, where the sky is blue and all the trees and shrubs and streams are coloured in pastel shades, he is calm, contented, happy. When placed before the fearful grandeur of rugged, snow-capped mountains, the terror of wind-swept plains or the silence of unresponsive forests, he is imbued with the courage and determination that is essential to the conquering of the obstacles that beset his path.

The dweller in the wilderness learns to acknowledge the subtle charms of its solitude. He learns to read the lessons in its rocks, and trees, and fields and falling leaves. He begins to comprehend why the nomadic Arab loves his heritage of desert sand.

With reckless courage and undying hope the Alaskan ever can see the green fields in the distance or the peaceful valley that lies just over the next divide. He climbs the rocky fastness, he penetrates the untrodden wilderness, alone and unafraid. Always is he certain that some day he will find the fortune that God has placed there for him. Hardships, privation, misfor-

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tune he endures as a part of his daily lot. Often without reward he toils for many years. Perhaps, after a bitter, desperate struggle against starvation or the elements, he succumbs to the Arctic blizzard; but he accepts his fate unflinchingly and without complaint. Occasionally he finds his last resting place in some deep, dark gulch, or on some barren mountainside, where he sleeps in a nameless grave with none to mark the spot. When the call comes, it finds him ready to pay the toll of the trackless places without question or regret, for courage and fortitude abide everlastingly in his heart. In the cold, austere mountains; in the silent forests, in the broad plains, in the long leagues of the heart-breaking trail, he finds a fit companion and a loving affinity in life or in death.

Yet with all the various moods and fancies that are born of scenery so beautiful that it makes the heart ache, Alaska essentially is a land of plenitude—bounteousness. Beneath her covering of moss and vegetation mineral treasure worth countless millions lies hidden; her broad acres are covered with riotous growth of wild grain and luxuriant grasses; her forests are filled with ripened timber; beneath her sod are billions of tons of coal. With extravagant generosity she has provided that posterity shall be nurtured and warmed with the food and fuel of her bosom.

In the years yet to be her great forests will deliver their wealth; her mines will surrender their riches; her seas will give of their abundance; her hospitable soil will yield of its marvellous productivity; her verdant fields will be harvested; her cereals will be ground into flour without which neither prince nor pauper can live; her sequestered inlets will become thriving industrial centers where the rumble of her thousand mills will mingle with the roar of many furnaces.

Alaska is calling for people. Her outstretched arms are filled with generous offerings to those who would come and

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free her from the isolation she has suffered for unnumbered centuries.

The sturdy men and women who conquered the great Northwest, who pierced the back-bone of the continent with railway tunnels, who made productive millions of acres of desert land, were of the same hardy stock who, to-day, by their endurance, energy and industry are slowly converting the vast wilderness of Alaska into an Empire.

These are the unhonoured, unknown heroes of the North. Some day, perhaps, some more gifted pen will undertake to write their story. Mine shall be the more prosaic task of writing something about the land that is theirs — "Alaska, an Empire in the making."

THE AUTHOR.

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CHAPTER I

LEAVING FOR ALASKA

Vessel sails through the "Mediterranean of the Pacific"—Magnificent scenery along the shores of Puget Sound and the Strait of Juan de Fuca—How it impressed different people—Each sees in it that which most appeals to him—Spouting whales and playing dolphins seen occasionally—Alaskan story told in the smoking room.

“CLANG! Clank!”

Loud and clear the telegraph bell rang out from the lower regions of the ship. The propeller began to churn slightly.

“Cast off your bow spring line. Take in the slack on the stern lines.” The order, full throated and resonant, came through a megaphone from the officer on the bridge.

The steamship *Admiral Sampson* began to slip, slowly, steadily, from the wharf on its way into the shimmering, opalescent waters of Puget Sound. The voyage to Southeastern and Southwestern Alaska had commenced.

Waving good-byes, shouting last farewells and messages to friends—some with smiles and some with suppressed sobs—the crowd of women and men on the dock melted farther and farther away. The moving vessel seemed stationary. In another slip, close to the one from which the *Sampson* had emerged, and scheduled to leave for Alaska the same evening with a big crowd of tourists, lay the *Mariposa*, the ship upon which Robert Louis Stevenson, while travelling from point to point in the South Seas, had written some of his charming stories.

The engine bell clanged at intervals. The ship backed and went ahead, but presently, with her bow turned towards the west, her speed increased. She was headed for the Strait of Juan de Fuca, and then astern, silhouetted against the blue skyline, Seattle's perspective of symmetrical sky-scrapers — rising tier upon tier back into the hills, where boulevards had replaced the foot trails and forest paths of a few years ago — came into vision. It seemed a fitting monument to the genius of industry manifested by its people.

Aboard the vessel was a distinguished crowd. Women and men from the four corners of the earth, of all avocations and pursuits were here assembled. Among them were Walter L. Fisher, Secretary of the Interior; Congressman William Sulzer, now governor of New York; Max Fleishman, a noted hunter, who had just returned from Africa; Captain Baldwin, a former champion baseball player; officials and scientists from Washington; several Alaskan prospectors, a playwright, a number of newspaper correspondents, and many tourists and hunters and others on business or pleasure bent.

Charmed by the wonderful scenery, they appeared to have little desire to talk to each other. As the vessel sped along towards the Strait of Juan de Fuca, with the picturesque, snow-capped Selkirks, a spur of the Cascade Mountains, on one side, and the Olympics, calm and majestic, on the other, the passengers appeared absorbed in their own meditations. If they spoke at all, it was to give birth to a superlative phrase in regard to the scenery.

The fringe of trees along the shore-line, dotted here and there with small settlements and quaint bungalows, made a pretty, rustic scene. The panorama was an ever-changing one. The placid water reflected every colour of the arching sky. At times the sea seemed bathed in amethyst; at others it faded to violet and heliotrope or coral pink. The bright sun lit up the

background of white, glittering peaks. The foothills in the middle-distance were clothed in a deep purple haze. Above everything towered Mount Rainier, sharply chiselled against the sky, the pearly whiteness of its topmost peaks glistening in the sunlight like a field of diamonds.

Broken at intermittent periods by cliffs of chalk-white or brown umber sand-stone, immense forests of fir and cedar, dark green and black, stretched from the hills to the water's edge. Here and there a little cascading stream, like a thread of silver, could be seen dashing its troubled way down the steep mountain sides. It was all inexpressibly beautiful.

"What a picture for an artist," murmured a young lady tourist. There was a deep reverence in her voice.

"Imagine the thousands of summer homes that would be built along these shores, if Puget Sound was near New York," said a real estate man from the city of lobster palaces and a "Great White Way."

"I'll bet there's millions of trout in those streams," offered a sportsman. "Those woods look to me as though they are just full of deer and partridge," he added.

"Millions of horsepower to be harnessed, and billions of feet of lumber to be cut," commented a practical man from Minnesota.

It seemed to impress them all differently. Some saw the utility of it—the profit that lay latent. But all were entranced by its marvellous beauty.

The ship increased her speed. The shores of many islands faded into the background as new ones came into vision to take their place. But, ever-changing in splendour, the giant crest of Mount Rainier could still be seen, maintaining its sovereignty over all its kindred. It was a glittering, glorious spectacle. Beneath it, as far as the eye could see, stretched a panorama of every variety of scenery—a sea as smooth as

the proverbial millpond, bays, forests, lakes, rivers, waterfalls, fertile valleys, and range after range of rock-ribbed, rugged mountains. Each new vista seemed more beautiful than the last. A newspaper man, fascinated, gazed at the ever-varying scene.

"What form of temporary insanity could have induced me to spend my last vacation in Switzerland, when I might so much easier have come out here?" he asked in a voice of wonderment.

"If I had only known," sighed a woman from an eastern state, "I would have come long ago."

The vessel neared Port Townsend, a city perched on a high bluff. The bell in the bowels of the ship clanged again. A customs officer came aboard for a few moments. Then the vessel resumed its voyage.

Little fishing and lumbering hamlets, like toy towns, dotted the shore-line, while primitive forests and high mountains formed their background. Occasionally, Indian dug-out canoes, with their fantastically-shaped prows, could be seen gliding on the surface of the water close to the shadowy shore or across the open stretches between the verdant islands. Every sweep of the eye brought a new vista on this remarkable piece of water, which rightly has been called "the Mediterranean of the Pacific."

Tumbling cascades came down from the hills, sharp promontories protruded from the beach, and once in a while the shore-line almost disappeared in inverted bays. At times the ship was on a wide sea, at others it appeared to be sailing through a river. At times it passed so close to the shore that it appeared as though one easily could have cast a lariat around one of the trees. Occasionally a salmon or trout leaped from the cool, blue water, leaving a circling eddy to mark the spot, and the sportsmen aboard, as they watched, had visions

in which they heard the singing of a reel and felt the tugging of a line.

Yachts and yawls, schooners and square-riggers, fishing boats and motorboats, passenger ships and freight ships, bound to and from the Orient or Alaska, or from around the Horn, specked the water in widely-separated places. They bespoke pleasure-seeking, industry, prosperity.

The *Sampson's* industrious propeller continued to chug and churn rhythmically. The vessel sped along. The beauty of the scenery was an endless variety of wonders.

On the shores of many islands gigantic cedars stretched high above the forests of spruce and pine. Although many centuries old, these great cedar trees, show no sign of decay, either when standing or lying upon the ground. In places their charred and blackened trunks stand for many decades as accusing witness of white man and Indian alike, who leave behind them the unquenched camp-fire.¹

Astern of the vessel was the placid, mirror-like sea; on

¹ A red cedar tree, 1137 years old was cut in the Snoqualmie forest in 1910 and marketed for shingles. This tree got its start in life some 720 years before the discovery of America. At the time when William the Conqueror fought the Battle of Hastings and founded the British aristocracy, this Washington cedar had attained the dignity that comes with 294 years; and when Cortez began the conquest of Mexico it was hoary with the weight of 747 years. Perhaps, struck by lightning or blown down by a storm, it fell to the ground two centuries before Columbus crossed the Atlantic Ocean in search of America. In the moss that formed upon it after it had fallen, another cedar took root, and its roots spread down the sides of the dead tree and reached the ground. The annular rings of the standing tree showed it to be 757 years old, while similar marks of the fallen one showed it had been growing 380 years before it was laid low. The tree had lain on the ground for 757 years, and probably more. At the end of that time, shingles from it were cut and scattered broadcast in the United States to demonstrate the durability of the wood. What Nature is long in producing she does not speedily destroy.

either beam the timbered hills, showing here and there the scars left in their serrated sides by avalanches. As the vessel neared the entrance to the Strait of Juan de Fuca, the sun began to sink in a glory of gold and copper. Occasionally, near Vancouver Island a spouting whale was seen, while dolphins flashed back and forth from the bow of the vessel. Evidently they were bent on a test of speed with the *Sampson*. Close to the shore-line the trees and hills, reflected in the deep, azure water, made a beautiful picture.

While some of the people aboard continued to gaze enraptured at the magnificent scenery everywhere presented, others slowly became surfeited with it, and began to get acquainted and to exchange confidences. In the light of the setting sun the masts and spars of the vessel seemed burnished. The snow-capped peaks scintillated in pink and salmon colour. The tree-tops turned to a deep purple and violet. An Indian paddling across an open stretch of water with his family in a canoe added a touch of the primitive to the magnificent scene. A small schooner, its sails flapping idly in the still air, dipped languidly to the scarcely perceptible swell.

As the travellers, with appetites sharpened by the invigorating atmosphere, wended their way, in response to the welcome dinging of the dinner gong, to the dining room, they took a last longing look at the gorgeous sunset, the beautiful meandering shore-line, the majestic mountains. They seemed to fear there would be no scenery worth the while on the morrow. The sportsmen aboard took one more intensely interested look at the flocks of wild ducks that flew from time to time across the water at the approach of the vessel. Perhaps, they, too, feared they had shaped their itinerary wrongly. Considering the many points of interest and manifold scenes of striking beauty that had been encountered during the day one was inclined to wonder why there were not hundreds of pleasure

craft sailing this immense land-locked sheet of placid water.

A crowd gathered in the smoking room after dinner. Among them were many who had visited the North before. They began exchanging stories for the edification of distinguished passengers making their first trip to the Northland. They talked of rich gold strikes they had just missed, of big stampedes over the snow, of fishing and hunting, of the bears they had killed and the big, speckled trout they had caught. From fishing and hunting to other adventures was an easy step. Each story seemed more miraculous than the one before. The meeting broke up after an Alaskan angler told the story of a fox farmer, who owned an island about 200 miles from Seward, and, who, while out halibut fishing one day, cast over his anchor with seventy fathoms of line attached. It was a good story, full of action, of shifting scenes and changing colours. Also it was highly improbable. In fact some of those who listened thought the narrator was rather reckless in his manner of handling the truth.

"It seems strange," he said, "that when a man is fishing on an ocean 5,000 miles wide and a thousand feet deep, that he should cast his anchor and the fluke of it would land in the blow-hole of a whale that is no larger than a man's fist.

"What's a blow-hole? Why, the orifice in the top of a whale's head from which he ejects water every time he comes up to breathe. Yes, sir, and the fluke of that anchor lodged right in that place. The whale happened to be swimming right at the point where the anchor was sinking to the bottom. You folks may not believe it. I wouldn't have believed it myself, if it hadn't been proved to me.

"As soon as the anchor hit that whale where the pippin hit the man who discovered the law of gravitation, the leviathan of the deep started off at a terrific rate of speed, taking the boat with him. He nearly snapped the line when he came to the

8 ALASKA, AN EMPIRE IN THE MAKING

end of the slack. It was drawn as tight as the 'G' string on a fiddle. The fox farmer was standing up, getting ready to heave a fishing line overboard when the boat suddenly jumped forward with a terrific lunge. Fortunately the weather was calm. The whale headed due north, the bow of the boat just skipping along the top of the waves like a hydroplane. It swam about fifty miles in less than an hour, and then made a wide detour and started back on a southerly course.

"That boatman was frightened all right. The wind whistled against his face as though he were coasting down the side of a mountain in an automobile equipped with neither brake nor wind-shield. Volumes of spray curled away from the bow of the boat as it skipped over the water, and behind it was left a wake of foam.

"The fox farmer tried to walk to the forward end of his craft, but the wind caught him and he fell back in his seat. Then he noticed that the mammoth was headed for Cordova Bay. The monster squirmed, twisted and flashed through the water, trying to get away, but its efforts were in vain. Once in a while the marine giant came to the surface and shot a thin column of water into the air. It could only blow with one hole. The anchor was stuck fast in the other. Finally as though making a last desperate struggle, the animal turned and with terrific velocity headed again for the open sea. It nearly capsized the boat in making the turn. The fox farmer decided to let it go, and seizing a hatchet which he used for bludgeoning halibut, he severed the line that bound his boat to the whale. The exciting journey was ended. The rancher wanted to go into Seward, anyway, as he was out of supplies."

Everybody greeted this yarn with incredulous laughter. But the angler insisted that his fox-farming friend had proved the truth of the story by showing the end of the anchor line,

which clearly manifested that it had been chopped off by a sharp instrument.

"I thought you said the whale was in Cordova Bay," interposed one of the listeners. "Why did your friend go to Seward?"

"I haven't had much practice in telling that story," the narrator explained, "and sometimes I get the geography mixed up." He still insisted, however, that he had given a veracious account of the adventure.

"Oh, well," said a newspaper man, who has a predilection for golf, "I can see that we anglers and golf players have got to stick together on this trip. I believe the story."

The group wandered from the smoking room to the cool night air to think it over.

A million stars were twinkling in the heavens above and reflecting themselves from their infinite heights into the depths of the water below. Against the sky-line could be seen the crests of the rugged mountains of Vancouver Island and the mainland of British Columbia, between which the ship sped on her way. Little cat's-paw waves, full of phosphorescent fire, scintillated on the sea, and the wake left by the speeding ship was a glowing glory of ever-changing form and shape. Looking into the black water from the side of the vessel, the forms of mammoth fish, darting aside to escape what perhaps they thought was a destroying monster, could be traced by the effulgent glow that followed their every curve and turn.

It was a night to make one dream. It breathed infinity. It was a night to make one meditate upon the things that are beyond human ken.

And the propeller churned and churned in its never-ending rhythmical gyrations, as the ship proceeded on its way to the Northland.

CHAPTER II

THROUGH SOUTHEASTERN ALASKA WATERS

In the Inland Passage—The first totem poles—No totems among the Eskimos—Indian superstitions and some of their possible origins—Barbarities of Indian wars—Totem pole heraldry—Woman's place among Alaska Indians—Indian kinship—Indian hospitality—A totem pole erected to a white man—The Indian "Bogey Man."

TRULY Alaska—meaning "Great Country"—rightly has been named. No pen can describe the infinite charm, the delicate colouring, the peaceful sublimity, the dignified grandeur of the Inland Passage. In it the least imaginative can find food for deep reflection.

The grey mists of morning curled around the blue hills rising on both sides of the ship. Each fleeting shadow was reflected in the azure water through which the vessel sped. Down the sides of the rock-ribbed hills and through the forests little cataracts chanted their lullabies. On every side was a vista of enchanting beauty. The breath of the Japan Current, warm and balmy, intermingled with the land breeze that was aromatic with the fragrance of pines and cedars growing profusely on the shores of the tortuous channels. Yet the air had none of the languor of the tropics. It was clear, bracing and invigourating. Its effect was soothing. Tired nerves relaxed.

Three hundred miles through winding, twisting waterways of the Strait of Georgia, between Vancouver Island and the mainland, with hundreds of islands lying in between, was a

voyage of ever-changing charm and mysticism. Giant peaks, in places crested with snow fields and small glaciers, rose almost to the heavens. The sun, shining through the mists, painted many rainbows.

"Clang, clang," went the bell in the engine room just before Seymour Narrows was reached, and the vessel slowed perceptibly. Mariners have learned to run through this contracted waterway only under a slow bell and when the tide is almost at a standstill. A United States warship, the *Saranac*, in the days when the country was new, attempted to navigate the pass at a time when the tide was full. The vessel was caught in the current, refused to answer the rudder and one of the jutting rocks near the shore pierced her hull.

Since that accident, vessels sailing to Alaska are so timed that they reach the entrance to the "Narrows" at the turn of the tide. If they miss the appointed time the passengers are furnished with fishing-tackle with which to amuse themselves until conditions are right for safe navigation.

In the spring tides, water churns through this narrow channel at a speed of ten to twelve miles an hour. The waterway is walled in by precipitous hills, so close that it appears one might easily throw a biscuit ashore, while in places ugly, shaggy-looking rocks protrude above the water's surface, adding to the danger. But when the water is slack — that is, at flood tide — Seymour Narrows is as placid as the face of a sleeping babe.

As the vessel threaded its way through picturesque Discovery Passage, just beyond the Narrows, the passengers searched their vocabularies for superlatives with which to express their feelings. The officer who left the bridge at this point, a man of direct speech and plain thought encountered no such impediment.

"This scenery is pretty, all right," he said, "but personally

I'd like it a whole lot better if this salt-water river had been laid out upon horizontal instead of vertical lines. If it had been made only half as wide as it is deep, and if the tides had been shifted to some other place, we'd go through with a whole lot less trouble."

Having relieved himself of a few plans by which he would have improved upon Nature, had the arrangement of things been entrusted to him, he continued on his way to his "watch below."

As the *Sampson* emerged from this serpentine passage, Chatham Strait came into view. It appeared as though the vessel would swing around into a bay. Then the ship headed for a high, green, timbered mountain. Suddenly it veered to the right and another unexpected channel opened up. It was like a river slowly flowing through a box canyon with almost perpendicular walls on either side. The feature that impressed the practical man was the large number of lights, buoys, and other aids to navigation which had been placed in these waters by the Canadian Government, in contrast to the corresponding dearth of them so noticeable upon reaching American waters.

It was the same scenery everywhere, and yet it was different. The high mountains were splashed with two distinct shades of green—the dark green of the spruce, pine, and cedar trees; and the intense, bright green of the clumps of willows and alders that were interspersed through the forests.

Occasionally a vessel was passed. Now and then a small Indian settlement was seen. Salmon-trout and other fishes leaped from the water.¹

¹ On one trip through Chatham Strait, the writer saw two deer—obviously chased through the woods by the timber wolves—swimming across the channel to one of the many islands. Louis Lane, an officer of the steamship *Corwin*, a few years ago saw a deer swimming across



Photo by MacPherson.

CAPE ST. ELIAS, THE FIRST PART OF PACIFIC NORTH AMERICA
TO BE SEEN BY WHITE MEN



Photo by MacPherson.

ICEBERG IN CONTROLLER BAY, WHERE VITUS BERING MADE
HIS LANDING



LOVER'S LANE, AT SITKA, IS A PRETTY GRAVELLED PATH, WHERE "CROAKING RAVENS FLY OVERHEAD, AND TINY HUMMING BIRDS, WITH BURNISHED BREASTS, FLIT BETWEEN THE BOUGHS."

The same sinuous course, the same indented shore-line, continued until the ship had reached Queen Charlotte Sound where the swell from the open ocean is sometimes encountered. The distance across the sound is thirty-seven miles, and at times the weather is such as to cause those who readily fall victims to seasickness some slight discomfort.

Vessels cross Queen Charlotte Sound in about three hours. At the northern end is Fitzhugh Sound, and beyond that is Lama Passage. Here is the old Bella Bella Indian Settlement, founded by the Hudson Bay Company. About sixty years ago it was the scene of many sanguinary tribal wars, at the termination of which a tribe known as the Bella Coolies was almost exterminated.

Here many totem poles are seen. In front of almost every house in the village one of these grotesquely carved totemic tombstones have been erected that those who came afterwards might read the family history of the warriors buried there. Many lives were sacrificed in the fierce internecine wars waged by the conflicting tribes, and the totem poles are consequently numerous.

The pictographic carvings upon these poles are not idols, as is generally supposed, but are regarded as genealogical trees or family registers. They tell the nursery tales and legends of a primitive people. The carvings are symbolical of the subjects they represent, and there always is some arbitrary mark upon every pole by which members of the various tribes can distinguish the clan represented.

Totems may be seen in large numbers at Killisnoo, Kassan, one of these channels. He succeeded in lassoing the animal from a small boat and managed to keep it aboard the ship for some time. The deer met its death at Nome by drowning in its attempt to escape by leaping overboard. In the winter months many deer may be seen along the coast. Driven from the mountains by the deep snow, they go to the lower levels and subsist upon the kelp along the beaches.

Wrangell, Ketchikan, Sitka, and other Northern ports, but they rarely are seen north of Seward.

The totem pole is unknown to the Eskimo, who has little wood at his disposal. Not only are the Eskimo methods of tracing genealogy different from those of the Southeastern natives, but so also are the methods of burial. Many of the tribes of Southeastern Alaska practice a crude form of cremation, while the Indians of the far North wrap their dead in canvas or other covering and raise them upon scaffolds to protect them from the wolves and other predatory animals.

In the interior of Southeastern Alaska many of the natives, after cremating their dead, leave the effects of the deceased in a trunk or box upon the top of the grave. These graves never are robbed.

The Indians in this region have many queer superstitions. The writer, in a trip from the head waters of the Stikine River to the head waters of the Francis River, and thence across Dr. Dawson's Portage to the Pelly and thence down to the Yukon, encountered Indians who held many strange beliefs and superstitions.

On the Liard River there is a band of Indians who regard the killing of a squirrel as an ill-omen. Neither will they destroy land-otters, for they believe that the spirits of these mammals enter the bodies of living squaws and the Indian women become witches. The Hudson Bay Company's factor at Liard Post, now dead, had a record of five otters being killed by two French-Canadian trappers, who entered that country. The following year the natives despatched five squaws—at least, the squaws went hunting with the tribe and never returned. The two offending trappers also mysteriously disappeared about the same time.

These natives are afflicted with a yearning for medicine that is almost an obsession. They will trade anything they

possess for drugs, and, sick or well, there is no limit to the quantity of medicine they will swallow eagerly, provided the taste is sufficiently nauseating. If one gives them medicine that is pleasant to the taste, they have the deepest contempt for its medicinal value and for the donor's skill as a physician, but if the potion has all the evil tastes it is possible to concoct, they regard it as a sovereign remedy for every form of disease.

These natives have a superstition that a big bear, endowed with an evil spirit, lives in the mountains at the head of the Liard River and they will not hunt in this region. This mythical monster is supposed to have one foot that is shaped like that of a moose, and a native who declared he had seen the animal's tracks said that the imprints of its foot were much wider than a sombrero hat.

In addition to this evil-spirited bear, according to the belief of the Indians, there resides somewhere between the headwaters of the Francis River, tributary to the Mackenzie, and the source of the Pelly River, tributary to the Yukon, a race of people who have fair skins, blue eyes and long, white beards. There are three theories to account for this story of a supposed race of white Indians: First, that they are the descendants of lost Russian trappers; second, that they are the progeny of the 5000 Vikings, the descendants of the followers of Lief Eriksen, who disappeared from Newfoundland between the fourteenth and sixteenth centuries; and third, that the race has no existence in fact—at least in this region. The latter theory probably is the correct one.

The writer and a party of prospectors spent eight months in the mountains dividing the Mackenzie and Yukon watersheds at their headwaters and during that time saw no trace or mark that would lead to the belief that the country ever had been inhabited, either by Indians or white men. Not an

axe mark was seen, nor was a fallen tree or trace of fire discovered. In a few places cottonwood trees had been felled, but on examination, in every instance, the marks on these trees clearly showed that they had been gnawed through near the butt by beavers or broken off by the wind. These facts, however, do not prove that the entire section is uninhabited. It is a vast, mountainous region, embracing thousands of square miles of unknown territory, and it would take many years to fully explore every part of it. Many of the divides are covered by lakes, but there are few glaciers, as compared to the conditions on the other side of the coast range. The temperature, because of the high altitude, is intensely cold in winter.

In practically all parts of Alaska, the Indians have a legend pertaining to a race of Nomadic white people, who live in some remote part of the territory, but when one inquires for their exact whereabouts, the natives always say they are living somewhere at a considerable distance from where the investigator happens to be situated. Somehow, the Indians make it appear that these white-skinned, blue-eyed savages are always far beyond the reach of the explorer. Roald Amundsen, discoverer of the Northwest Passage and of the South Pole, searched diligently but fruitlessly for this probably mythical tribe, while on the Arctic journey that resulted in his discovery of a Northern waterway from the Atlantic to the Pacific. Vilhjalmur Stefansson,² a noted ethnologist, has been in the Arctic regions eastward of the mouth of the

² Since the above was written Professor Stefansson has returned from the Arctic after having discovered a race of unknown people on Victoria Island. He informed the writer, on his arrival at Seattle, that there are probably 2000 people on the island, and that he saw about one half of them. Many of these Indians had blue eyes, red hair, red beards and fair eyebrows. Their skins were fair. Professor Stefansson, who took cephalic measurements of the members of the tribe, expressed the opinion that they are of unquestionable European origin.

Mackenzie River from 1907 to 1912, searching for this lost tribe and studying the ethnology of other tribes.

The Indians of the Liard and Francis Rivers will not hunt in the country in which these streams have their source. They are afraid of the bear with the moose-foot and evil spirit, which, a long time ago, they say, killed a number of their people. The country is overrun with game animals of every description, the moose paths resembling cattle tracks on the Texas plains. Its inaccessibility has prevented any great number of white men from going into this region, and the difficulty of transporting trophies to the coast does not make it an ideal ground for hunters. This country is the habitat of the silver-tipped bear, the largest and most ferocious animal of the species. It is probable that in some prehistoric time, the natives, then equipped with spears, bows and arrows and other primitive weapons, fought with one of these animals and the bear won. Such an incident may have been the nucleus of the tradition of the bruin with a bad spirit and the cloven hoof.

Fort Francis, at the head of the Francis River, at one time the farthest outpost of the Hudson Bay Company, was destroyed more than one hundred years ago by Chilkat Indians, who crossed the coast range from Skagway to wage war and levy tribute on the interior tribes. The traders were murdered by the invaders, many Indians were killed and others marched back to the coast as slaves. This tragedy may have had a bearing on the fact that the Indians rarely travel eastward of Francis Lake. The natives at Liard Post say that in former years the traders consumed "five snows"—five years—in making a trip from Fort Francis to Ottawa and return.

In Southeastern Alaska the natives have learned the uses of mineral springs, in which, when afflicted with sickness, they

bathe. They have a knowledge of elementary hygienics. When suffering from influenza they build wickiups by stretching hides over bent willow-poles, into which they carry heated stones. When a sufficiently warm temperature is attained, the sick native crawls in, taking with him a large quantity of water to drink. The effect is much the same as that of a Turkish bath.

It is not many years since practically all the natives of the North Pacific Coast engaged in war with interior tribes and enslaved those whom they captured. The captives were subjected to all of the barbarities that it was possible to conceive. One of the popular forms of amusement was to tie an old and decrepit slave to a rock at low-tide and allow him to be drowned by the incoming water. Another highly amusing pastime was to lash the slave in a leather sack and then jump upon him until every bone in his body was broken.

An old-time resident of the territory informed the writer that at Katalla many years ago four native slaves were buried alive at the corners of a house that was about to be built. The slaves seemed to enjoy the ceremony as much as did their captors. Thanks to the energetic efforts of the missionaries these barbarous customs no longer are practised.

Of ancient Indian customs and usages the totem-pole, which may be termed the Indian heraldry, alone has been allowed to remain. It represents the various tribes and families. Among the totems of the Haidas are the eagle, thrasher, whale, crow, wolf, and bear. Sub-totems are sometimes formed by the naming of a child for some natural object. To one who can decipher them, the poles erected in front of the houses form a history of the family within.

The figure at the top is the principal symbol of the male occupant, and the grotesque carvings represent traditional folklore or events connected with the history of the tribe.

Ages ago, according to "Father" Duncan, who has lived with the Metlakahtla Indians for nearly fifty years — and also according to ethnologists of note — the totem was first adopted to distinguish the four social clans into which the race is said to have been divided. These clans were known as the Kishpootwadda, the Lacheboo, the Canadda, and the Lackshkeak.

The Kishpootwadda symbolically were represented by the fish-back whale in the sea, the grizzly bear on land, the grouse in the air, and the sun and stars in the heavens. These symbols are most numerous in the totems. The Canadda symbols are of the frog, raven, star-fish, and bull-head. Those of the Lacheboos are the wolf, heron, and grizzly bear. The Lackshkeaks selected the eagle, beaver, and halibut. Members of a clan whose heraldic symbols are the same, although living hundreds of miles apart and speaking different languages, are regarded as blood relations.

In the dim past, according to native traditions, the Indians lived in a beautiful land where there was unlimited game and an abundance of fish. It was in this mythical realm the creatures who head their totems revealed themselves to the heads of the leading families of the day.

Like more aborigines, the Indians of Alaska have a legend of a flood which once covered the earth. Clam-shells found in the high gravels of the hills in many parts of the territory are pointed to in verification of the legend. This flood, according to tradition, devastated the country, and the Indians scattered in every direction. When the waters subsided they settled on the land where their boats rested, and there formed new tribal relations. This theory of a deluge accounts for the wide separation of families blood-related and having the same totems.

It is one of the ambitions of the leading members of each

clan to represent the symbols of heraldry in carvings or paintings. Upon the death of the man at the head of a family a totem to his memory is erected in front of the house of his successor. On this pole there is carved the genealogy of the dead Indian. Families having the same crest are forbidden to intermarry. A Frog may not marry a Frog, nor an Eagle an Eagle, but a Lochinvar of the Frog family may woo and win — sometimes with a club — a maiden of the Whale family, or vice versa. By some tribes the marriage relations are further restricted, if the creatures of their clan have the same instincts. For a Whale to marry a Halibut would be an embarrassing mesalliance, and both animals being carnivorous, it would be extremely bad form — to say the least — should a Wolf and a Bear intermarry. Such a union is not to be thought of. It wouldn't be tolerated and would lead to social ostracism of the contracting parties.

Unlike the savage tribes in other parts of the world, the native women of Alaska have a more important place in the affairs of the people than do their lords and masters. Here the ambitions of the Suffragists have been carried to the fullest extremes. The women of the family do all the bartering and trading, and the children take the crests of their mothers. The members of the father's family are not even regarded as relatives. A man's heir is not his own son, but his sister's son. It is a very complicated system of relationship, but one that tends to create hospitality among the various tribes. To what one has the others generally are welcome. A strange Indian upon entering a settlement looks up the totem-poles which to him are the city directory, and then goes to a house having one of his crests. This kinship often restores peace between hostile tribes.

There is no more hospitable person on earth than the Alaskan Indian, and the further north one goes, the greater

will one find the manifestation of this spirit of generosity.

Hundreds of hungry prospectors along the shores of Bering Sea and the Arctic Ocean have been succoured by the Indians who themselves were impoverished. In the winter of 1902 hundreds of gold-seekers traversed the Inmamachuck River, which empties into Kotzebue Sound. Many of the treasure hunters ran out of food, and but for the generous hospitality of the natives, would have perished of starvation. This unusual strain upon their food supply left the Eskimos very short of provisions in the following spring, when, to add to their other troubles, a scourge of pneumonia broke out, and being without nourishing food, they died by the hundreds. Practically the whole tribe was wiped out. These unselfish people gave up their own lives to save the lives of the white strangers. This is not by any means the only instance of their self-sacrifice, and, to the shame of the white man be it written that his government, while making reservations and conferring many other blessings upon the murderous Sioux and Apaches and dog-eating Iggorotes of warmer climes, has done little for the benefit of these kind-hearted people who became wards of the United States when their territory was purchased from Russia.

One of the most interesting totem poles in Southeastern Alaska and the only one so far as known to the writer that ever was erected in the honour of a white man, is situated at Ketchikan. It was carved many years ago to the memory of John Swanson, a trader for the Hudson Bay Company. Swanson was the captain of a sailing vessel when he married his Indian bride. Later they moved to Victoria and when Swanson died his wife returned to her native home. Nailed to the pole are the clothes worn by the trader on his wedding day. The pole is crested by an eagle, and beneath it are the carvings of the clan to which Mrs. Swanson belonged.

The Alaskan Indians, like almost every other primitive race, have a "bogey man" story, which has a questionable use in frightening children. In a Northern village is a totem surmounted by the whitened face of a European, flanked upon either side by the figure of a child wearing a tall hat. The natives account for its existence by the following story:

Long ago a chief's wife left a temporary summer camp. Taking her two children, she crossed one of the narrow channels to an island where she gathered spruce boughs for holding salmon eggs. Before entering the woods she drew the canoe up on the beach and warned the children to remain by it. When she returned the children had disappeared. The mother called to them many times and they answered always from the woods in the voice of crows. When she sought the crows they mocked her from the trees. The children never were recovered, and the shaman, or medicine man, of the tribe in some occult manner, later discovered that they had been stolen by a white man.³ This story, in various forms, is told throughout Alaska. The reader may not believe it, but if he remains unconvinced, the Indian will furnish corroborative testimony by showing the totem pole.

³ Some of the Indian legends bear a striking similarity to the folklore of the Maoris of New Zealand, especially those stories which pertain to fishing. The "bogey man" fable of the blacks of Eastern Australia has to do with a loathsome monster known as the bunyip, which, in the dense tropical darkness, draws its horrible bulk from out the lagoons and sloughs. The bunyip, according to the black-fellows, is somewhat of a cross between a colossal octopus and an elephant. Native children are very much afraid of it, and even grown-up blacks rarely move through the woods after dark.

CHAPTER III

ARRIVING AT KETCHIKAN

Prince Rupert — Railroad building in Alaska and Canada — Scenery along the Canadian coast beyond Prince Rupert — Lack of navigation aids in Alaskan waters — Ketchikan — Luxuriant vegetation of Southeastern Alaska — Ketchikan distributing point for mines — Mining settlements.

PRINCE RUPERT, the terminal point for the Grand Trunk Pacific Railroad, situated at the mouth of the Skeena River, came into view almost at the opening of Dixon's Entrance. It is one of the most prosperous cities in the Northwest. Backed by government assistance, in the shape of guaranteed interest on bonds, the promoters of the railroad have opened up the vast mineral deposits of British Columbia and the great wheat plains of the Alberta country. Desert wastes have been converted into thriving wheat fields, and forest wildernesses have been reclaimed.

Besides receiving financial aid from the government, the Canadian builders were knighted by the King of England. Those who attempted to build railroads in Alaska were, and still are, compelled to pay a license fee of \$100 per mile per annum to the government and a dockage tax of ten cents the ton on every pound of freight they handle either into or out of Alaska, while in addition they have been accused of almost every crime on the calendar.

Another distinct difference between the American and Canadian procedure lies in the fact that the Canadian builders are allowed to use the fuel found in the country and to

cut ties from the adjacent forests. Those who attempted to build railroads in Alaska were not allowed to use the fuel that existed almost beneath their tracks of steel, but were forced to import coal from Canada and to pay a duty upon it, and the taxes and restrictions imposed by the Forestry Bureau of the U. S. Department of Agriculture have made it more economical for them to import their ties and other lumber from far-off Washington and Oregon.

One of the plans of the Alaskan coal miners was to sell coal to the Grand Trunk Pacific Railroad, and a contract for delivery was entered into. Now the conditions are reversed. The thought that Canada soon will be selling coal to the United States navy, and that ships running to Alaska—a country that has within its borders an almost unlimited supply of good coal—are utilising fuel oil from California, does not inspire the deepest sense of admiration for the manner in which the United States government has managed the affairs of its Northern possession. Practically every large enterprise in Alaska now is burning California oil.

Beyond Prince Rupert are high mountains, at times thrusting themselves to the heavens and again merging into rotund, timbered hills, which suggest to the prospector that perhaps the erosion of ages had left deposits of precious metal in the streams flowing between them.

Some of the peaks, with their sharp, saw-tooth tops, silhouetted against the sky-line, appeared weird, grim, and forbidding. Others sloped gently from green middle heights, as though tempting the wayfarer through these labyrinthine channels to come ashore and take a stroll through their cooling woods. Many of the steep hillsides bore the trace of scars left by avalanches that had cut wide swaths through the timber. Some were crowned by beds of ice that glittered in the sunlight and brought a thrill to the hearts of the mountaineers

and the big game hunters. Others were bathed in pearly mists on which the rays of the sun painted opalescent rainbows. Occasionally small clearings in the timber indicated the presence of the settler.

Hundreds of streams cascaded boisterously down the rugged hillsides, landing at the bottom in gigantic splashings of silvery crystals. The mystery and mightiness of mountain and running water were everywhere. In places rivers joined the sea, from broad verdant valleys. Little gushing brooks and rivulets, emerging from the woods over clear, pebbly bottoms, hinted to the angler of the futility of going further to look for sport.

The colouring of the water through which the vessel floated was a study. Sometimes it was a silver-grey. As the sunlight struck it, it turned to blue and dark green, to red and violet, to creamy pink and lilac, and to a hundred other shades of colour. Along the shores were reflected the deep shadows of woods and mountains. The unalterable majesty of it all — the richness and delicacy of its colourings, the suggestion of strength and immutability — made it a scene of stupendous magnificence impossible of description.

With an ever-changing, ever-varying panorama, the vessel slipped from Lama Passage into Millbank Sound, a short distance from the open sea, and thence through Lover's Lane, another beautiful picture of winding, tree-fringed water and wrinkled coast-line, into Graham's Reach. Along the shore at intervals, canneries and lumber camps were sighted, for the Canadian forests are open to exploitation and much of the wood is cut and manufactured into paper-pulp. At every bend and on every shoal and turn there was an acetylene light, a buoy, or other beacon to guide the mariner.

The vessel in response to its ever-pounding propeller glided through McKay Reach, Wright Sound, Grenville Channel

and Chatham Sound, to Dixon's Entrance, passing Port Simpson, a small Canadian settlement which had — and perhaps still has — hopes of becoming the terminal for a transcontinental railroad.

Cape Fox, near Dixon's Entrance, is the Southeasternmost point of Alaska. From this promontory to as far north as the traveller cares to go, he will find an alarming lack of light-houses and of other aids to navigation, which is in sharp contrast to the conditions prevailing in Canadian waters.

Off to the right lies Rudyerd Fiord. In the centre of this little bay there arises, sheer and precipitous, a great rock monolith that is several hundred feet high. Some of the excursion steamships make a trip around the fiord, that the passengers may have a close view of this wonderful piece of natural sculpture.

From Dixon's Entrance the vessel sped through Revilla Gigedo Channel into Tongas Narrows, another constricted waterway, and the city of Ketchikan came into view. This city gave the cabinet officer and others their first distinct impression of the profligacy of Alaska's resources.

Beneath the compact mass of timber seen from the ship grows a still denser mass of bushes, vines, and berry-plants of every description, and an underbrush that is strongly suggestive of the tropics. Moss, lichens, ferns, and millions of dainty wild flowers are everywhere. The air all along the coast is saturated with moisture from the Japan Current, and this vaporous atmosphere, combined with the vast amount of strong sunlight that prevails in the north during the summer, makes the vegetable and plant life grow quickly and with a luxuriance almost beyond belief.

In front of one house sweet peas had been planted. They had attained a height of fully eight feet and were literally showered with fragrant blossoms. Even some of the totem



Photo by Huey.

DRIVING THE GOLDEN SPIKE IN THE IDITAROD RAILROAD



Photo copyright by Lomen Bros.

HIGH TYPES OF ESKIMOS. ABLAKOK, REINDEER KING OF CAPE
PRINCE OF WALES AND THE BELLE OF A NATIVE VILLAGE

poles were bewhiskered with clumps and sprays of moss, and in occasional places trees could be seen sprouting from this moss, their roots extending down the sides of other trees or down logs to the ground. Humming birds and other representatives of the feathered tribes flitted from bough to bough.

Alaska's bountifulness is further shown in the cascading stream that enters the sea from the back of the town and which is reached by a winding board-walk. Lying in the clear water, below the falls, can be seen countless thousands of salmon, their tails wiggling slowly, giving them just sufficient propulsion to maintain a steady position against the current.

Every few seconds one of these fishes separates itself from the mass and, swimming with incredible swiftness through the adverse currents, leaps into the boiling water of the miniature Niagara. Sometimes the salmon jump several feet out of the water. Occasionally they reach a nook or cranny in the rocks above, where they fight desperately against the torrent. Sometimes they make the riffle, but more often than not they are thrown back into the cataract, only to try to climb the falls time and time again.

"If at first you don't succeed," apparently is the motto of the salmon family. The word "fail" is unknown in their lexicon. Exhausted by their efforts, they lay in the slack water for a few minutes to recuperate their energies and then, impelled by the instinct that urges them to reach the spawning grounds, they make another struggle to surmount the obstacle.

Photographing salmon in the act of jumping a waterfall is exceedingly difficult, and the number of films one can spoil, without getting a picture of the kind desired, is remarkable. The fishes flash plainly into vision, sometimes leaping several feet out of the water. In attempting to obtain photographs one can quickly discover that the eye moves faster than the hand. Usually by the time the camera is focussed the salmon

either has been thrown back into the torrent at the foot of the cascade or has climbed the rapid, and another fish is leaping at some other point.

A youngster sitting above the rapids had a string of trout weighing several pounds, which he said he had caught in two hours. While we watched he hooked two big ones, and the expeditious manner in which he landed them certainly conveyed the impression that he was not addicted to that unfortunate habit of recklessly making the element of elasticity the principal component of the truth that distinguishes so many anglers. This stream rightly is named Fish Creek. It contains many fishes besides salmon.

Lying out in the bay, not a half a mile from the shore, was a floating cannery — the "Glory of the Seas." Beside the hulk lay a scow containing many thousands of silver salmon. Although fishing is one of its principal industries, Ketchikan is not by any means a fishing village. The city is the distributing point for a number of mines situated in the hills behind the town. It is the first American port of entry in Alaska. Having abundant water-power in its back-yard, it is naturally well lighted. The population is increasing and at the time this was written, Governor Walter E. Clark had just visited the city with a view to enlarging the government school accommodations.

Though none is surrounded by the historic interest that pertains to many similar institutions in Alaska, there are churches of different denominations at Ketchikan. The people of Ketchikan are strong fraternalists, either lodges or clubs of all the better known fraternal organisations having been inaugurated.

All passenger vessels plying in Alaskan waters are equipped with wireless telegraphy, but the only news received at sea is that which comes in brief bulletins that are picked out of the

ether from time to time as they are despatched from one ship to the other.

At Ketchikan, where a daily newspaper is published, the traveller gets his first complete news of the outside world. The Inland Passage has a news service peculiar to itself. It has to do with boats that pass, of new strikes that have been made, of what the cannerymen are doing, of when the conservation craze will subside, of proposed new forms of government, and so forth.

The main business section of Ketchikan lies upon a flat just a few feet above sea-level. It is surrounded by a mineralised zone, in which Sulzer, Niblack, Hadley, Coppermount, and Hollis, are the principal settlements. Sulzer is named for the New York governor who has much money invested in its vicinity. Several mines are situated upon the adjacent islands.

Following the board walk which trends beneath overhanging trees, the tourist obtains his first close glimpse at the totem poles. The city was once the home of the Thlingit Indians. As evidence of their occupation, covering a period of many centuries, there still remain numerous totemic monuments. There are many things of interest to the tourists, not the least attractive being the many curio stores, where can be purchased Indian baskets and many souvenirs made by the natives during the winter season.

Being industrious and prosperous, few of the residents of Ketchikan concern themselves with the political conflicts which have been the cause of so much dissension in the territory, and especially at the National capital. Their transportation problem was solved by nature. The ships unload right at the edge of the land. Being close to Seattle and to the coal supplies of British Columbia, these people are not deeply affected by the conflict over the Alaskan fuel problem.

CHAPTER IV

METLAKAHTLA AND WRANGELL

Metlakahtla and "Father" Duncan — Intelligent Indians — Beyond Metlakahtla — Wrangell — Its early boom — The Klondike Strike — A Reign of outlawry — The "Single O Kid" — Wrangell now quiet and respectable — Trolling for salmon — A trip up the Stikine River to Glenora — Arithmetic at Wrangell.

IN the grey dawn the vessel left the wharf at Ketchikan and for two hours wound through narrow twists and turns of placid water. As the sun's rays cast their effulgence on the high peaks, and as hundreds of birds in the timber began their morning anthem, the vessel glided into a small bay. On a broad table-land lay that dream of aboriginal restoration, Metlakahtla, the missionary station, of which for more than fifty years "Father" William Duncan has been the guiding spirit and presiding genius.

The morning mists, blue and pearly grey, curled around the mountain tops. The sea, placid as a mirror, was clear as crystal: long strands of snake-like kelp and masses of seaweed drifted idly in the moving tide. Little sponges, sea-urchins and delicately coloured corals could be seen on the bottom. Vari-coloured, translucent jelly fish floated lazily, flabbily, in the shimmering water.

Behind the town of many buildings, standing out from the tangle of dank vegetation, the lilac-tipped hills rose tier upon tier. On the other side of the bay jagged peaks thrust their giant heads through fleecy vapours that obscured the upper sky. In the rosy dawn Metlakahtla looked like a city asleep.

It awakened to life at the sudden blast of the steamship's whistle.

Hundreds of Indians, men, women and children, came to the dock, for the arrival of the "Big White Chief" from Washington was expected. There are no more intelligent and prosperous Indians in Alaska than the Tsimpseans who live at Metlakahtla. They are well educated in the elementary branches, have a definite system of municipal government, own stores, blacksmith shops, salmon canneries, cooperage works and other industrial enterprises and many have highly cultivated gardens. Every enterprise is conducted by Indians solely. They have several organisations, including a temperance society and a brass band which is much sought at the country fair and exposition gatherings through British Columbia and the Northwestern States. They wear the clothes of civilisation and conduct themselves very much in the way of a white man.

Prior to the arrival of the Cabinet Officer, there had been a little trouble among them. Some of the more progressive favoured the inauguration of a high school, and they wanted to know what was going to become of the sawmill, canneries and other establishments on the death of "Father" Duncan, who, though hale and hearty in the year 1912, was slowly declining. A meeting was called in the church, which is fitted with a spire, belfry and splendid organ, and the question was debated pro and con.

Annette Island, on which the settlement is situated, is under the jurisdiction of the United States, although the progenitors of the inhabitants, as well as many of those still alive, were born in British Columbia. In 1887 the Indians moved the village, bag and baggage, from British territory. The Island has been made an Indian reservation, and missionaries who have endeavoured to obtain the establishment of reservations

in other sections of the territory, have complained bitterly that the only thing ever done for the Northern Indian by the United States government was the creation of this reservation for the benefit of a tribe of aliens. The criticism is not a just one, however, as much beneficial work for the natives has been done by the United States Bureau of Education, particularly in the establishment of the reindeer industry, which has advanced many of the Eskimos from a blubber-eating class to the pastoral stage of life.

During the summer season, the Metlakahtla Indians engage in salmon fishing with which they supply their own up-to-date cannery and here, as elsewhere, many of them devote their time to the exciting sport of capturing King salmon by trolling.

When the vessel pulled out, a big band of Indians were on the wharf to wave good-bye and give a cheer for the ship, a number of bashful half-caste children standing pathetically in the foreground. Everybody was sorry to leave this cleanly, thriving, pretty and in many ways remarkable place.

On leaving Metlakahtla higher and more rugged mountains appeared. The timber was thicker, the vegetation more luxuriant. Streams having their sources in the snow-kissed fields at the mountain crests, rushed down the hillsides. Numerous flocks of gulls and terns hovered gracefully around the mouths of the salmon-choked creeks, darting and pecking at the eyes of fishes as they wriggled over the riffles and shallows.

From sinuous waterways, the vessel glided into Clarence Strait, a long sheet of water lying between Etolin and Prince of Wales Islands, on both of which are situated some valuable mines and commercial ore bodies of prospective value. In places, the forests had been blown down, leaving on the ground a mass of tangled and criss-crossed timbers. These

windrows are picturesque because of the amount of devastation that has been wrought by the strong gales.

Occasionally the coast range is split by wide valleys from which flow big streams. Upon most of these rivers, salmon canneries have been established. Halibut fishing schooners were passing by the dozen — the *Sampson* was nearing the better fishing grounds. The coast-line on both sides was indented with many little bays and inlets, dotted at intervals with small settlements and camps.

Great fields of kelp, with long tentacles spread out on the water like a giant octopi, were scattered here and there. This salt water vegetation has its roots in the rocks and shoals, and for that reason is avoided by mariners. In the absence of proper aids to navigation, these kelp fields are used as beacons, but as some of the masses are not growing to the bottom, they are not the best guides conceivable.

In this region, the Alaska red and yellow cedar are predominant in the forests. Great shaggy trees, centuries old, many of them over-ripened, raise their hoary heads. The Alaska cedar is said to be impervious to the teredo, that pernicious little borer that makes life miserable to the owners of docks on the Pacific Coast and correspondingly pleasant to the owners of creosoting plants. To make the docks worm proof, piles used on the Pacific Coast are saturated in creosote before being driven into the sea floor.

Some of these Alaskan cedars attain a height of approximately 200 feet, and many of them are more than thirty feet in circumference at the butt. The wood makes splendid furniture, which is very durable. As has been pointed out, the cedar is a long lived tree, and its durability is in keeping with its longevity. The furniture in the Arctic Brotherhood building, a handsome log structure erected at the Alaska-Yukon-Pacific exposition, held at Seattle in 1909, was made of

Alaskan cedar. The building and furniture was presented to the University of Washington at the close of the fair. The Alaskan cedar has a pungent odour not unlike the sandal wood of Australasia and the Orient.

A wide valley through which the turbid Stikine River empties into the sea marks the approach to Wrangell, one of the oldest settlements in Southwestern Alaska. Beyond the valley, nestling under the steep hills and circling around the bay like a half moon, have been erected the buildings that form the town. Situated on the hill is an old Russian blockhouse and half a mile from the wharf are many totem poles which mark the graves of departed Indian chiefs. At widely separated points are gardens in which berries and vegetables grow prolifically.

Wrangell was built ahead of its time. Although still a prosperous community, it holds none of the glory incident to the boom that it once knew. In the early days, 'way back in the late '70's and early '80's, it was the outfitting point for 30,000 miners who stampeded up the Stikine River, across the plateau from Telegraph Creek, at the head of the Stikine, to Dease Lake, thence down Dease Lake and River to the Cassiar gold diggings.

The waters of the Dease join the Liard and become a part of the great Mackenzie River which empties into the Arctic Ocean about 200 miles beyond the eastern boundary of Alaska. Following Alaska's coast-line, from Wrangell to the mouth of the Mackenzie River, is a journey of more than 10,000 miles. It is a little more than 200 miles from Wrangell to a portion of the headwaters of the same stream.

When the mines in the Cassiar range were worked out the miners sought new fields of endeavour and Wrangell again settled down to its quiet, humdrum existence. Deserted cabins were nailed up. The gambling houses were closed.

The hulks of a couple of old vessels that had been used as boarding houses in the days of mining and alcoholic excitement were left to rot. The customs house still was maintained and once in a while a revenue cutter, in quest of smugglers, visited the place.

In 1897, Wrangell again was electrified into metropolitan and cosmopolitan life by the gold strike on the Klondike River, a tributary of the Yukon. Many gold hunters, believing they could reach the new Eldorado by the Teslin Lake route from Telegraph Creek and thus avoid the dreaded Chilkoot Pass and White Horse rapids, landed at Wrangell. Little did they suspect they were facing a difficult journey up a dangerous stream and they likewise were ignorant of the obstacles and difficulties to be met on the trail to Lake Teslin.

Many of them, finding there would be no horse feed on the Teslin road until late in the summer, and it being impossible to pack their supplies on their backs across the 200 intervening miles, decided to change their plans, and instead of heading for the El Dorado at Dawson, crossed the divide into the Cassiar range. Few were rewarded for their efforts and many died of exposure and hardships.

With the influx of adventurers from all parts of the world to Wrangell, the boards were ripped from the doors of houses and gambling palaces and faro layouts and roulette wheels and nearly every other device recognised by the gambler as having a certain utility in the process of separating the unwary gold hunter from his bank roll were installed. When this paraphernalia failed to accomplish the desired result with neatness and despatch, more strenuous methods sometimes were adopted.

Wrangell in those days was one of the most lawless towns the writer ever has seen, either in Alaska or anywhere else. A member of a noted family of Arizona outlaws acted as deputy United States marshal. Holdups were common occur-

rences. Many bullet-pierced bodies were found in the bay. The "Soapy" Smith gang of outlaws, who contemporaneously "operated" at Skagway and who, after a desperate gun fight between their chief and the better class of citizens, were run out of that town, were no better nor worse than the lawless element which infested Wrangell.¹

One of the Wrangell plans for acquiring the stranger's money was to post on a tent a notice reading "Information About the Klondike Given Free." Everybody was interested in the Klondike and scores of argonauts entered the canvas structure, only to have a revolver poked in their faces and their cash and jewellery removed from pockets or money belts. Complaints to the authorities were remarkably ineffective.

The gang was well organised and only once, so far as the writer was able to learn, were they beaten at their own game. On this occasion they crossed with a clean-faced, mild looking youth of about nineteen summers. The lad was known as the "Single O Kid." He received the nickname on account of his proficiency as a sharpshooter, either with revolver or rifle. This unostentatious, innocent looking youngster, in a shooting gallery at Wrangell, hit a bull's-eye 125 consecutive shots. The gang nicknamed him and left him severely alone.

One day, however, a plan was laid by the gang to relieve

¹ The head of the "Soapy" Smith gang several times caused to be posted outside his gambling establishment a notice to the effect that men were being recruited for the Spanish-American war which was then in progress. Hundreds of men, tired of packing outfits across Chilkoot Pass, decided to join the army. They were drafted into a room and told to strip in readiness for a physical examination. Then they were called into another room and while one of the gang, who pretended to be an army surgeon, "made a stall"—to use the vernacular—at conducting the examination, his confederates proceeded to go through the pockets of the clothes left in the adjoining room and removed everything of value.

the "Kid's" uncle of his loose change. A "friendly" game of draw poker was begun and the victim treated to an ocular demonstration of what is colloquially known as a "cold deck." In less than half an hour his bank roll was reduced to the rubber band which had encircled it. The "Single O Kid" watched the play and backing towards the door as his relative arose from the table, pulled two revolvers. The gamblers didn't wait for an invitation to throw up their hands. "Uncle" recovered not only his own money, but collected also several thousands of dollars from the pockets of those who had attempted to fleece him.

While the "Kid" held his "irons" pointed at the gang, with their blue hammers curled back menacingly like the heads of cobras ready to strike, his uncle left the building. Politely then the gamblers were requested to face the wall, in which position, in response to the "Kid's" gentle direction, they remained for several minutes. In the meantime the "Kid" vanished. That night he and his uncle disappeared up the Stikine River and Wrangell knew them no more.

But Wrangell is different now. It is a quaint, quiet town of about 1,000 people, about one-quarter being Indians. It has a splendid wharf, sawmill, several fishing stations and is headquarters for fishermen, hunters and trappers from the interior. Although most of the deer which abounded on the mainland and surrounding islands ten years ago and whose carcasses occasionally could be seen piled upon the wharf like so much cord wood, have been driven out by the wolves, there still remain some good hunting grounds.

One of Wrangell's industries is salmon angling. The little harbour is speckled with boats from the after ends of which trolling lines are made fast. Angling for King salmon is a profitable business and one that affords exciting sport.

The man who feels a thrill when a trout tugs at the end

of his line can find a manifold pleasure in a fight for the capture of a King salmon. The King is decidedly game and there is enough uncertainty as to the result of the struggle to make it interesting. The fish are sold to the salteries. Those who make a business of this sport earn as much as \$20 per day during the few weeks of the running season. A stout line is needed and a spoon, so shaped that it will not only spin but dart through the water in a sidewise movement, is regarded as the best lure for their capture. A heavy sinker, about four to six ounces, should be placed about eighteen feet from the end of the line to which the spoon is attached. Good goose and duck hunting is obtainable around the marshes and lakes on the mainland and islands.

At the end of the half-crescent curve of the sea on which the town is built are a number of Indian houses, which obviously were constructed with infinite care, many of the boards having been hewed from the logs with an axe. Here also will be found many interesting totem poles and a few curio stores. It is customary for a number of squaws to meet each vessel as it lands at the wharf, where they display their baskets, fancy beaded moccasins and other articles of their handiwork, for sale.

A trip by the river steamboat to Glenora, the head of navigation on the Stikine River, is calculated to prove attractive to the tourist who desires to leave the beaten path of travel. The boat passes through American territory for a distance of about forty miles and then enters Canadian territory. Glenora is about 160 miles from the confluence of the Stikine River and the sea. The trip is one of marvellous scenic beauty. A short distance from the mouth of the river the end of a receding glacier that has cut a channel through the mountain can be seen from the river steamer. Several glacial streams join the Stikine River, heavily charging the waters with silt.

At Glenora the vessels are unloaded by the natives, who in 1898 learned enough of the ways of the white man to inaugurate and successfully conduct a strike for higher wages. During the stampede to the Cassiar diggings in 1880, these natives were not so well versed in the ways of the world. Competition for the river trade was keen and a rate war between the rival ships was begun. The captain of one vessel as a means of attracting trade, engaged a string band to entertain the miners on their way up and down the river. His hated rival installed a loud, shrieking whistle, not unlike a calliope. When the band on one vessel began to play, the captain of the other vessel blew the whistle to drown the music. On the first trip after the new attractions had been installed, the ship with the band was the first to reach Glenora. The natives enjoyed the music immensely. They were having a fine time until an hour later, when the other craft hove in sight around a bend in the river and the captain gave a few blasts of his whistle by way of salute. Immediately every Indian ceased work and took to the hills, where they remained several days. Neither captain could get his ship unloaded, so an agreement was reached to eliminate the new improvements.

Apart from its other accomplishments Wrangell has evolved many strange and awful modifications of the multiplication table and some of its people can do weird tricks with the calendar when they think such a procedure is necessary to win a debate.

One of Wrangell's standard stories is that of an Indian who became involved in a dispute with a trader over an amount due him. The remuneration was fixed on a basis of hours worked. The Indian could read a little and write less. When his native eloquence failed to convince the trader of the justice of his contentions, he prepared to clinch his ar-

gument by producing a ready reckoner which he had purchased from the trader a year previously. Proudly he pointed to the number of hours worked, the rate fixed and the amount placed opposite.

Was the trader convinced? Not at all.

"Why, that book ain't no more good," he explained. "It's all out of date. That's last year's ready reckoner. The latest ones ain't come in yet."

The Indian is still trying to figure it out.

The Secretary of the Interior was given an inadvertent demonstration of this ability to produce an unexpected result with figures. The citizens had elected a townsite trustee to obtain a patent to the city lots in the name of their various owners. A survey was necessary and a civil engineer was employed at \$10 per day to do the work. He worked until the bill totalled \$11,000. This was altogether beyond the anticipations of the lot owners, so they asked the government, through the cabinet officer, to pay the bill. In a meeting held in a log cabin much of the blame was laid to the absent engineer.

"Well, you folks must have known what the bill would amount to," said Mr. Fisher. "If you knew it was costing more than \$10 per day, why did you allow the engineer to keep on working for nearly three years?"

"We didn't let him work three years," argued one of the citizens. "He worked only a little more than one year — about nine hundred days in all."

"I have been told that they have nights in Alaska three months long," commented a newspaperman, "but this is the first time I ever heard of years containing 900 days each. Yes, this is a wonderful country."

CHAPTER V

SOME ALASKAN GLACIERS

Leaving Wrangell—Alaskan twilight—Wrangell Narrows—Petersburg—Halibut, cod and other fisheries—First near view of a glacier—"Dead" and "Live" glaciers in Taku Inlet—Flowers on edges of ice fields—The largest glacier in the world—Glaciers of Copper River.

BEFORE wharves and warehouses had been constructed at Nome, much freight and baggage from the fifty-six ships that arrived there in the great stampede of 1900 was piled pell mell on the beach, and much of it was lost.

A lawyer's trunk was missing. His incessant inquiries the first day made life a burden to the steamship agent. Finally the agent, angry and irritated, said:

"Now, Judge, don't bother me any more. I'll give you my sacred word of honour that I'll find that trunk for you before dark."

The lawyer went away satisfied, but the next day he realised that it would not be dark for nearly two months.

This almost continuous daylight is one of the things that makes a trip to Alaska a novelty. No man boasts that he works from sun to sun.

On leaving Wrangell the passengers were able to read their magazines and newspapers without artificial light until ten o'clock in the evening and even later. As the ship continued its way through winding passages, but ever working northward, the daylight lengthened perceptibly.

From Wrangell the route to Petersburg lies between the mainland and an archipelago, of which Mitkoff and Kupreanoff

Islands are the largest. The passage, known as Wrangell Narrows, is a most unusual piece of water for Alaska. In contrast to nearly all other channels in the inside passage, this narrow waterway is very shallow, a condition, which, perhaps, has been caused by the heavy deposits of silt brought down by the Stikine River and other big streams.

Congress has been threatening for some years to pass an appropriation bill to dredge this channel. Parenthetically, Congress in 1912 appropriated \$180,000 for the establishment of a lighthouse at Cape St. Elias, but a large amount of the material for the beacon was lost in the wreck of a tender.

Petersburg, being the headquarters for the halibut fishing schooners with several large canneries nearby and a sawmill in constant operation, has grown wonderfully in the six years of its existence. It has a permanent population of nearly 1,000, every one of whom appears to be profitably employed.

The best time for halibut fishing is during the winter months and it is no uncommon sight at this season of the year to see fifty or sixty schooners in the harbour on the same day, especially if the weather is heavy on the fishing banks. Halibut are packed in ice and shipped to Seattle, thence to the markets in the eastern states. Much of the halibut served in the New York hotels comes from Petersburg and its environs. This large and nutritious fish wholesales at an average price of about ten cents the pound and in November, 1911, more than one million pounds of halibut was landed on the dock at Seattle in one day.

Much has been written about the hardships and vicissitudes endured by the prospectors in the interior of Alaska, but their life is beset with no more dangers and privations than is the life of the halibut and cod fisherman. Those who embark in this business must be equipped by Nature to withstand the rigours of an Alaskan winter at sea. The weather is not particularly cold, in fact not so cold as in the harbour of New

York, but is damp, foggy, and generally miserable. Most of the halibut fishermen own their boats and when the season closes in April they devote their time to catching salmon.

The herring fishing industry here is being developed on a commercial basis. A few years ago the Alaska herring was used only for bait and for manufacturing fertiliser. Now these fishes are shipped to the markets of the world, in competition with the Norwegian herring, which they equal in flavour and nutritive value. In many of the markets they are bought in preference to the Norwegian variety.

Another source of income for the residents of Petersburg is found in the rock cod, black cod, smelt, trout, bass and other fishes of which there is an abundance, and many people are beginning to market the soft-shelled crabs which can be netted in thousands. When the tide is out at Petersburg, the table is set, for the beach is covered with clams; and the day is not far distant when these bivalves will be shipped to Seattle and other places. The saw-mill cuts an average of forty thousand running feet of lumber per day, and much of it is used in making the boxes in which fish is shipped.

Some of the halibut caught in this locality grow to tremendous size, a Chinaman catching one off the wharf in 1911 that weighed more than three hundred pounds. It took four men to land this big fish.

Petersburg is ideally situated on a flat surrounded by hills and, unlike most cities on the coast of Alaska, its expansion is not impeded by the contour of the country. There are three good hotels, a native school managed by the Bureau of Education, a school for white children which is managed by the common council and a school board elected each year. Two churches have been built and dedicated. Altogether it is one of the most thriving, industrious communities in Alaska and it is unusual in that one meets few natives selling curios.

Although many of the mountains along the circuitous route were coroneted with small glaciers, sparkling in the sunlight, it was not until Frederick Sound, a few hours' sail from Petersburg, was reached that the first near view of one of these ice masses was obtained. The approach to La Conte Glacier was heralded by a flotilla of small ice floes, pieces of which were being gathered by the fishermen for use in packing the product taken from the sea.

Running through Frederick Sound into Stephens Passage, the latter a beautiful strip of water lying between snow-crested mountains, Taku Inlet was reached. Here is a sight the equal of which can be seen in few other parts of the world—a "dead" and a "live" glacier, lying a short distance apart. The ship had reached the glacial belt, where mountains of ice, almost as old as the world itself, were visible. The "dead" glacier on the left, grey, dingy, receding, with a wide moraine between its edge and the sea, was suggestive of an era long since forgotten. The "live" glacier, with its sheer, jagged ice cliffs rising abruptly from the sea, presented a view not unlike the pictures one sees of the great Antarctic ice wall.

Like many other ice masses in Alaska, the "live" glacier in Taku Inlet keeps up an incessant thundering and creaking, as it discharges tons upon tons of ice into the sea. There is something awesome in these manifestations of Nature's power. The sight of Bering, Muir, La Perouse, and other great ice rivers, slowly, irresistibly creeping towards the shore, and from the shore into the sea, is a magnificent one. The ponderous bulk, the frigid vastness, the abysmal crevasses, the tints of the ice cliffs, the minarets and spires of the glacial castles, the gleaming palisades, the incessant crashing and grinding, the floating hibernal bergs with their prisms reflecting a thousand scintillating hues are sights and sounds which must enthrall even the dullest imagination.



Photo by Dobbs.

DRYING TOMCOD FOR WINTER CONSUMPTION. THE ESKIMOS DIP THESE FISHES IN SEAL OIL
AND EAT THEM RAW



CHENA STAMP MILL, FAIRBANKS DISTRICT



Photo by Hunt.

CLIFF MINE MILL, NEAR VALDEZ

And yet it would seem that here have the equator and the poles been wedded. At the edges — in fact in the very shadows of these ice cliffs — beautiful wild flowers and wild grasses, growing higher than a man's waist, attest the fertility of the soil; and in the near-by woods can be heard the voices of singing robins and the low-toned notes of humming birds' wings.

On the bank of Copper River, adjoining the end of Childs Glacier, there is a big field of wild red top hay and close by spruce, willows, alders and other trees thrive. Dr. Stellar, the scientist who accompanied Vitus Bering on his second voyage of discovery in 1742, reported to the Empress Catherine that he found forget-me-nots and other delicately tinted wild-flowers growing at the edge of the ice fields, and it was only his great reputation as a scientist that saved him from being branded as the Russian equivalent of a nature faker.

Many of the glaciers seen along this route do not come down to the sea. At Disenchantment Bay, an arm of Yakutat Bay, a few years ago one of these gelid masses was thrown by seismic activity into the water, and it is claimed by those who watched the upheaval that the resultant wave reached a height of 137 feet. This story, however, is generally discredited.

The Malaspina Glacier, visible along the regular route from Juneau to Cordova, in the year 1905-06 awakened to such activity that its entire surface aspect was changed. Timber was uprooted for miles and the bedrock twisted and contorted. This glacier, by the way, is the largest in the world, having a sea frontage of nearly 100 miles.

Watching an active glacier, moving steadily forward into a river or sea, is one of the most fascinating sights imaginable. No written description can give an adequate idea of its immensity, its sublime strength and its manifestation of irresistible power.

In August, 1912, a lake which had been imprisoned in one

of the numerous crevasses of Miles Glacier — on Copper River a few miles above the railroad bridge — broke through its restraining walls and hurled thousands of tons of ice and an incalculable amount of water into the river. With the bursting of the ice dam, a wave estimated to be thirty feet high swept down the river, spreading over the flats and deluging the surrounding country. Icebergs weighing many tons were jammed against the buttresses of the bridge, but the structure stood the strain.

Professor Lawrence Martin, leader of the National Geographic Society's 1910 Expedition to Alaska, in describing the action of Childs Glacier, on Copper River below the railroad bridge, says:

"Every time the ice cliff was undercut by the river, great masses of ice would cascade down the front, raising a gigantic wave in the river. People in Alaska speak of the discharge from the front of Childs Glacier as 'sloughing.' A 'slough' has always raised waves in Copper River, making it dangerous to shoot the rapids in front of Childs Glacier in a boat, or to line a boat up the opposite bank; but in the spring of 1910 the conditions were accentuated by the advance of the glacier and the pushing of the river eastward.

"During the advance the waves washed up over a bank five to twenty-five feet in height and rushed back 100 to 200 feet in the alder thicket. Ice blocks up to ten tons in weight were thrown in among the trees. Stones a foot or two in diameter were hurled into the thicket. Alders nine to eleven inches in diameter were stripped of leaves and bark and bent backwards or broken off short or uprooted or buried beneath the gravel and boulders and macerated trunks of other trees.

"The river bank, which was cut back some in the preceding year, was in 1910 fairly eaten up by the ice-berg waves which crossed the river, fifty to sixty feet by actual measurement

having been removed along the bank of the stream facing the glacier.

"Near the north margin of the glacier is an easily accessible portion of the ice-front, which ends upon a nearly flat, out-wash plain of glacial gravels, overgrown with alder and cotton-wood trees fifty to one hundred years old. Here the glacier was nearly without motion from 1905 to 1909, and probably for some years before, so that small shrubs had begun to grow upon the stagnant ice margin. This part of the glacier advanced 1,500 to 1,600 feet before June 10, 1910, and 204 feet more up to October 5. The rate of advance is phenomenal, averaging two to eight feet a day, and especially remarkable for the edge of a glacier where the movement is always the slowest. . . . Ice blocks were sliding down the frontal slope, many of them being rolled over in to the forest; trees were overturned, turf and grass were ploughed up and carried away on the ice of the glacier.

"Yet one saw and heard little of a spectacular nature while traversing the ice-front. It was an irresistible, steady movement, but slow, as the movement of the hour hand of a clock is slow."

The railroad bridge at the time of Professor Martin's examination of Childs Glacier, was 1,575 feet from the north margin of the ice mass. This bridge is the key to the \$20,000,000 railway to the copper and coal mines. What the glacier will do in the future, therefore, is a matter of deep interest, particularly to the owners of the railroad and the mines. No corps of engineers living could save the bridge and railway if the glacier should make an advance upon it. That such a contingency is not impossible is shown by the fact that within recent years, according to Professor Martin's observations, Hidden Glacier, in Yakutat Bay, has advanced two miles, or more than 10,000 feet, and buried a bench mark placed near

the former terminus beneath 1,100 feet of ice, while the Haencke Glacier advanced more than 5,000 feet in ten months.

Usually the sightseer, watching a glacier in action for the first time, is loth to leave it. Attorney-General George W. Wickersham, accompanied by Secretary of Commerce and Labour, Charles Nagel, in 1910, made a trip up the Copper River to inspect the railroad, then in course of construction. The cabinet officers were accompanied by a number of prominent citizens from Cordova, who were desirous of showing the distinguished visitors everything of interest. They had planned to go to Tiekel, a point a few miles beyond Childs Glacier, at which place they stopped en route. The time at their disposal was limited and the citizens, to whom the glacier was no longer a wonderful attraction, were anxious to proceed further into the interior.

The glacier was working splendidly, throwing immense chunks of ice, larger than the capital building at Washington, into the river. Fascinated, the cabinet officer watched.

"Well, Mr. Attorney-General; it's getting late, and we should be getting aboard the train for Tiekel," at last hinted one of the citizens.

"Yes, yes, just a minute. Another berg is going to drop presently."

Another tremendous chunk, with terrific detonation, fell thundering into the river, throwing a high wave that dislodged rocks from the banks, and left salmon wriggling and flapping among the bushes, after the water had receded.

"Wonderful!" exclaimed the cabinet officer. "Wait just a few minutes, and we'll see another one go."

It was an hour or more later that the attorney-general regretfully allowed himself to be led away.

Some resembling church steeples, some appearing like castles, the bergs floating in Taku Inlet and other Alaskan waters are

fantastically shaped. Many are the colour of turquoise, others are pure, glistening white, while others have the brilliancy of a blue-white diamond. The colours constantly change as the sun rays play queer tricks of light and shade. It is no wonder the glaciers inspired many of the interesting legends of the natives.

CHAPTER VI

A CENTRE OF INDUSTRY

The great Treadwell mine that has produced seven times the sum paid by the Government for the entire Territory of Alaska—The big stamp mill and concentrating plant—Juneau, the Capital of Alaska—Silver Bow Basin and its mines—The origin of hochinoo, a potent beverage—Deserted Katalla—Cordova and glaciers.

APPROACHING Gastineau Channel the mountains, clothed to the snow-line with forests of timber and green foliage, seem to rise higher than ever. Glaciers, great and small, are everywhere visible. Vast rivers of ice fill the valleys. In Frederick Sound, the vessel passed close to Patterson and Baird Glaciers, which dot Stephens Passage with icebergs practically all the year through. A condition appreciated by the fishermen, who thus are saved the cost of maintaining an ice plant.

Entering Gastineau Channel, which separates Douglas Island from the mainland, the great Treadwell mine, employing nearly two thousand men and operating the second largest stamp mill in the world, is about the first thing that attracts the sightseers' notice. The thunderous roar of the machinery compels one's attention. In the centre of the channel is a pretty island, on which has been placed a lighthouse, and stretching out to meet it is a gravel bar, from behind which a turbulent stream comes tumbling down to the sea.

The Treadwell is one of the largest mines in the world and there are few, if any, where the employes enjoy better living conditions. Neat cottages, comfortably furnished, afford quarters for the married men, and a good hotel has been established

for those who prefer a life of single blessedness. A billiard and pool room, a library, a club room, a theatre, a ball room, a swimming tank, a turkish bath plant, a bowling alley and photographic dark room are many of the modern conveniences that have been installed for those who delve in the bowels of the earth for golden treasure. The dining room and a modern bakery plant are models of cleanliness and utility. The mine and houses are lighted by electricity.

Nine hundred stamps and gigantic concentrating plants in the past thirty years have extracted from the ore in this one mine, gold amounting to five times the sum paid for the entire territory by the government.

The Treadwell, discovered in the late '70's by Pierre Erussard, known throughout the territory as "French Pete," who died at Katalla in 1912, was sold to John Treadwell, a carpenter, for about \$400 — some say \$300. Since 1882 it has produced nearly \$50,000,000 in gold and there is a sufficient amount of ore blocked out to keep the machinery in operation for seventy-five years to come.

Back of the present workings is a big, deep quarry, known as the "Glory Hole." In former years the ore was taken from this open gash, but when the cut became too deep, the plan was abandoned and a system of main shafts adopted. These shafts sink to a depth of 1,700 feet and the tunnels below extend for a considerable distance under Gastineau Channel. A five stamp mill was erected in 1882. To-day the noise from the tremendous mills sounds like the deafening roar of Niagara Falls many times multiplied.

"Do not speak to the workmen" reads a warning to the visitors. It is quite unnecessary, for the largest megaphone in the world would leave the human voice inaudible in the terrific din of the mill rooms. Mr. Kinzie, the manager of the property, is never too busy to issue a permit to those whose interest

in geology is sufficient to tempt them to make a trip towards the centre of the earth in one of the cages.

The energy for the colossal plant is generated from a waterfall a few miles distant, but substitute steam power is used on the few occasions when the weather becomes so cold that the stream is covered with ice. In point of tonnage produced, this mine is the largest in the United States, and there are few that surpass it in the steady production of gold.

For many years coal was burned at the mines for heating and domestic purposes, but failure to open the Alaskan fuel measures to development finally forced the company, like every other large enterprise in Alaska, to burn California fuel oil.

The tide of Gastineau Channel rises and falls from ten to twelve feet. That part of the channel which is close to the discharge pipes of the mill gradually is being filled with pulverised quartz.

Almost directly opposite the big oil tanks, on the other side of the channel and within ear shot of the reverberations of the stamp mills, lies the Davidson Glacier, perched high on the top of a mountain and to the eastward lies Douglas, a small city peopled mostly by the employés of the miners and a few Indians. Here the first hammered copper and silverware is offered for sale by the natives.

Connected with Treadwell and Douglas by ferry and lying in the shadow of a dark, frowning mountain, lies Juneau, the capital of Alaska. Juneau, in the summer evening mists, looks like a Swiss village on the shores of a lake.

Behind the town and connected by a box-like canyon lies the Silver Bow Basin, where many mines are in operation. The high mountains divide the basin from the coast-line, and the work of blasting a subway through the solid rock was commenced in 1911 by a mining company. This tunnel when completed will be 7,000 feet long, and large enough to operate an

electric car system, by which the ore will be hauled to the crushing mills and concentrating plants on the coast. Several hundred stamps have been landed on the beach and these will be erected and ready for operation in 1913, by which time the subterranean passageway will be completed.

The mines in Silver Bow Basin, according to prominent mining engineers, are richer than the Treadwell, and the matrices are of equal immensity. It is estimated there is sufficient ore in sight to keep the big stamp mill in operation for more than two centuries.

Although it is not so busy as in the palmy days of the Klondike stampede, when thousands of miners landed there, en route to the interior, Juneau is a very thriving, prosperous city. An executive mansion is being constructed under the supervision of Governor Walter E. Clark, but as this is written, the U. S. District courthouse and the public school are the most pretentious buildings.

The most interesting structure and one which usually is pointed out to the tourist, is the house of the late Chief Johnson, who was head of the Raven branch of the Taku tribe of Indians. Johnson, a man of wonderful endurance and remarkable physical prowess, attained his chieftainship by giving a potlatch that cost \$20,000. For many years he traded with the Indians in the interior and along the coast as far west as Yakutat. The noted brave went to the happy hunting grounds from Killisnoo, a small fishing settlement, in 1904, when a dog jumped from a canoe in which he and several others were travelling. Johnson managed to swim ashore, but he was so benumbed by the cold that he died on the beach.

Local tradition accredits Johnson's relatives with the discovery of the utility of kelp strands as a "worm" for making the whiskey which is known throughout the territory as "hoochinoo." It is thought the name was derived from

the Hootzanoo Indians, the tribe over which Johnson achieved chieftainship. The usual method of manufacturing this alcoholic beverage is to place a mixture of fermented molasses, flour, sugar and cornmeal, or other cereal in a kerosene can, attached to the top of which is an old gun barrel. The barrel passes through another can filled with snow or ice water, and acts as a "worm" in a distillery. When the fermented substances are heated sufficiently, a steam arises, which, condensing in the "worm" pours out at the other end in the form of "hoochinoo." Johnson's progenitors discovered that a long piece of kelp, which is hollow could be substituted for the gun barrel. Since the advent of missionaries and government officials, this crude method of "moonshining," which in former years was carried on in every part of Alaska where white men have penetrated, has been greatly restricted. Some of the natives still make a "near-beer" from asters, blueberries, strawberries and other plants, which is mildly alcoholic.

"Hoochinoo" is a most formidable beverage. It is sometimes called "squirrel whiskey," because it obsesses the consumer with a desire to climb a tree. One drink of it is said to have sufficient power of demoralisation to induce a man to steal the thongs from his own snow-shoes, while two will imbue him with a yearning to murder his mother or the first baby he can find. It is manufactured in various grades known as "Aurora Borealis," "Nitric Acid," "Chain Lightning," "Snake Juice," and "Battle Axe" brands. Each brand produces a different effect, and as a general rule, it can be guaranteed to convert harmless, big-souled, broad-hearted men into fiends incarnate.

A log building with a tall bell spire, situated a short distance from Johnson's place of residence, was the first church built in Juneau. It was founded by the Presbyterian Board of Mis-

sions and did good service as a place of worship and general meeting house until 1902, when a new structure was erected.

Juneau was discovered in 1880 by Joseph Juneau and Richard T. Harris, who were outfitted at Sitka. The town was first known as Harrisburg. Juneau and Harris made a fortune in mining at this point, but Juneau's money was quickly spent. Later he conducted a restaurant at Dawson.

Gastineau Channel is a picturesque piece of water and a source of constant charm to the residents of the trio of towns that had been built on its shores. This waterway was explored by Russian, Spanish and English navigators, all of whom named it differently. The channel received its present title after the transfer of the territory to the United States, the name being borrowed from a vessel owned by the Hudson Bay Company.

Like all other Alaskan waters, Gastineau Channel is prolific in sea life of every description. In the many streams emptying into it, hundreds of trout of different species can be hooked and, during the spawning season, these waterways teem with salmon. Schools of herring and small fish of all kinds scurry in every direction through the salt water, and when the tide recedes the sandy bottom is literally covered with many kinds of sea life. Everywhere on the sodden shore can be found crabs, clams, spirals, periwinkles, and other forms of shell fish; while starfish of diversified colouring are left stranded, and creeping things with hundreds of legs drag their loathsome length along the sand. Among the yellow and green weeds are many queer, ludicrous forms of life. It is this abundance of living creatures that attract the swarms of gulls and terns that fly screaming and screeching through the warm winds above the water. The surrounding woods produce wild raspberries, strawberries and other fruits in abundance.

At Juneau comes the parting of the ways for Alaskan tourists.

Those taking the Southeastern trip go up Lynn Canal, a pretty, narrow channel, skirted with glacier-capped mountains, to Haines, Fort Seward and Skagway, returning by way of Sitka. From Skagway the journey may be continued across the divide and down the Yukon River to Bering Sea.

Those making the journey to Southwestern Alaska sail along Gastineau Channel from Juneau, through Icy Strait into Cross Sound, and thence to the Gulf of Alaska, which is a part of the Pacific Ocean, passing Mount Fairweather and La Perouse, Malaspina and other glaciers, en route. The giant bulk of Mount St. Elias, the first point of Alaskan land seen by white man, raises in stolid, lonely majesty high above its related peaks. The coast range, clear-cut and sharp, stands out pearly white against the blue sky and the cooling breezes from many glaciers makes sweaters and warm clothing desirable.

The ship ploughs on through the blue water, past the white heights. Whales and porpoises sometimes are seen. The first stop is usually made at Yakutat Bay, a picturesque cove, where a salmon cannery has been established. This place was first settled by the Russians more than one hundred years ago. At that time the bay was the habitat of many sea-otters, an animal which is now almost extinct in Alaska.

Beneath the bluest skies, through the bluest seas, hedged in by the bluest hills and glaciers, Katalla, occupied by the "bluest" people in Alaska, is reached. It lies in a slight indentation in the coast, but otherwise is exposed to the full sweep of the sea in an unbroken line as far south as the Antarctic Ocean. Close by is Controller Bay, which in reality is a mud flat on the shore of the open ocean. The deposit of silt from Bering River, which flows beneath Bering Glacier, has caused a low marsh to form for some distance into the sea towards Kayak Island, upon which Dr. Stellar, a scientist who accompanied Vitus Bering on his second voyage of discovery, made

a landing in 1742. This makes the "bay." Heavy windstorms prevail at nearly all seasons of the year and as the bay is shallow, a landing, more often than not, is accomplished with much difficulty.

A few years ago Katalla was a thriving metropolis. Immense deposits of coal had been discovered a few miles in the interior. Railroads were being built, mines were being developed, everybody was busy and prosperous. Suddenly like a flash from a clear sky came the order for the withdrawal of the Alaska coal land from entry and Katalla commenced to languish. Its buildings became tenantless, its population decreased. Many of those who had spent years of labour and much money in development, were forced to return, broken in fortune and spirit, to cities in the United States to start life anew. Katalla is a melancholy sight. It seems to brood pathetically on its former good prospects and bright hopes. The mineral is there in abundance, but it cannot be mined.

On the shores of the bay and at short distances in the interior, are oil wells, but caps are screwed on most of the casings. No patents to the land have been granted, and the owners are fearful of making further investment in development work lest they share the fate of the men who discovered the coal lands.

The country contiguous to Katalla, is covered with berries and wild fruits of various kinds. There is some good agricultural land there, but most of it is covered by the Chugack forest reserve and is therefore practically unavailable to settlement.

A headline jutting into the sea and the wreck of a vessel jammed on a rock marks the entrance of Prince William Sound, at the head of which lies Cordova Bay. The sound is perfectly landlocked by high mountains and should it ever be used as a coaling station — which is not improbable — a few forts will make it absolutely impregnable.

At the head of the bay is built the city of Cordova. Back

of it lies the Copper River Valley, one of the routes to the interior, and seaming the mineralised mountain sides are two of the world's icy marvels—Childs and Miles Glaciers. Beyond lie the Kennicott and other rich copper mines. The Kennicott mine in 1911 increased the value of the copper product of Alaska by nearly \$2,000,000. Experts believe there is as much copper in this particular zone as in all of the State of Michigan.

Along the valley lies a standard-gauge railroad, 191 miles in length, the building of which was filled with romance. Its construction is regarded as a distinct feat in world's engineering. The road crosses the river between the two glaciers mentioned. The false work for the bridge was laid on the ice in winter. Men were hired to work night and day. M. J. Heney, the contractor, the man who built another "impossible" road across the mountains from Skagway, and his chief engineer, E. C. Hawkins, conceived the idea of using the river ice for a foundation for the bridge scaffolding. As the spring approached hundreds of men were kept busy every minute of the day and night, for, if not completed by the time the ice burst, all of the work and material would have been lost. The ice went out, carrying the false work with it, less than an hour after the last spike was driven in the connecting span, and the work was completed. The bridge cost \$1,400,000. The road opens another route to the great interior country, where lie countless millions of tons of coal and the tremendous ore bodies of the White, Tanana Valleys and other mineralised regions.

With its roof caved in and partially covered with moss and vegetation, the ruins of an old Russian trading post, known as Alagniak lies near the railroad track, 21 miles from Cordova. At this point the Indians of a hundred years ago from the Upper Copper River Valley and the heads of the Tanana and White River Valleys sold their furs to the Russian traders who came in from their stations. The cruelty of these traders led

to tragedy when Governor Baranof sent an expedition up the river. The natives in retaliation murdered the party at a point near Tiekel.

Several fenced graves, some marked with rude monuments, on the hillside at Alagniak bear mute testimony to the sufferings endured by the many argonauts, who in the Klondike stampede of 1897-98 ascended the Copper River in the endeavour to reach Dawson.

The scenery along the railroad is wonderful in its magnificence, and it affords the traveller a rare opportunity of viewing an active glacier at close range. Along the river's edge for a distance of three miles, Childs Glacier raises its frigid bulk, like a solid wall, against the side of the torrential river. The mass is constantly moving forward at an estimated speed of three and a half feet a day. The swift stream, flowing against the glacier's edge, cuts underneath, and every few minutes gigantic bergs, some of them weighing thousands of tons, fall with a mighty splash into the water.

The face of the glacier is more than three hundred feet high and three miles long. Nobody knows its exact dimensions. Its gigantic body has been traced back in to the mountain, through riven slope and chasm, for a distance of seventy-five miles, at which point the end was not yet in sight. Across the river is Miles Glacier.

Although these glaciers are within fifty miles of the city, and notwithstanding that the bridge between them was built by using ice for a foundation, the people of Cordova in the winter of 1911-12 suffered an ice famine. Usually they had been able to cut sufficient ice from the near-by trout streams and lakes, but the Japan Current that season played a scurvy trick upon them by keeping the air so warm that no ice formed. This climatic condition, while unusual, existed to a greater or lesser extent all over Alaska in 1912. It is hoped, by the

residents, that this desirable change will prove permanent.

Cordova has good hotels, a number of churches, a chamber of commerce, a few automobiles and several other adjuncts of a metropolitan city. Its docks are the finest in Alaska and, as it is the outlet for mineral zones, and coal fields, it is likely that it ultimately will be developed into a smelting centre about the size of Butte, Mont.

Chitina, 131 miles on the railroad from Cordova, is the starting point for Fairbanks and other interior cities. Kennicott, at the end of the railroad, 192 miles from Cordova, is the point of departure for hunters who seek trophies from the bands of mountain sheep, moose, caribou, black and brown bear, mountain goats and glacier bear that inhabit the upper slopes of the Copper and White River Valleys.

CHAPTER VII

RUNNING PAST THE EXPOSED COAST

Valdez and its Mines — Seward, the Town where an Undertaker can't make a living — Cook's Inlet and Kenai Peninsula — Cook's Inlet and Kenai Peninsula, an Agricultural and Mining Region — Sitka, the former capital — Lover's Lane — An early tragedy.

FROM Cordova the vessel passed between Hinchinbrook Island and the mainland into Prince William Sound. On the left of the ship is a line of high, rugged mountains whose tops usually are mantled in snow. Vegetation is thick and abundant, reaching from the snow-line to the water's edge. The shore is wrinkled with many little bays and inlets, and in most of these can be seen the launch or rowboat of the prospector, who is ever searching the rocks and hills for traces of precious metal.

The ship passes in silent review before Nature's rugged pageantry of rock and ice and trees, broken at intervals with grassy slopes and shelving beaches. A stop is made at Ellamar where a copper mine is operated, and from there the vessel slips into the broad and picturesque bay of Valdez, passing Fort Lisicum en route.

Like nearly every other coastal city in Alaska, Valdez lies at the foot of high hills, while six miles away, and cutting off the town from a number of payable quartz mines, lies the Valdez Glacier, which now and again allows rivers of water to break through its crevasses and flood the surrounding country.

The pleasure seeker will find much enjoyment in a buggy ride along the road constructed by the Alaska Road Commission

to Keystone Canyon, fourteen miles distant, where the "Bridal Veil" and other beautiful waterfalls may be seen. This road, by the way, is a part of the trunk road leading to Fairbanks.

The Valdez quartz mines were developed for the most part with money subscribed by its wide-awake business people. A prospector known as "Red" Ellis—because of his long auburn hair—nobody ever knew his real name—is responsible for much of the mining that has been done in that country. A few years ago Ellis found a good prospect six miles from Valdez. Local business people were induced to subscribe \$10,000 to place machinery upon it, and for many months thereafter it paid dividends at the rate of about eighty per cent. per month on the amount invested. Naturally this lucrative return gave an impetus to the development of other prospects.

For many years Valdez was the outfitting point for Fairbanks, Copper Center, Kennicott and other mining settlements in the interior, but the construction of the Copper River and Northwestern Railroad from Cordova diverted a large amount of the traffic. Mountain sheep and goats may be obtained in the hills a few miles from the city and if one industriously casts artificial flies on any of the streams, one usually will be rewarded with a creel full of speckled trout.

Along the shores of the bay are scattered many mines and prospects which make Valdez their outfitting point. About eighty miles distant is Port Wells, a new settlement where some mineralised quartz veins have been uncovered. Contiguous to Valdez is Slate Creek and a number of other placer mining camps.

The vessel next touches at Latouche, where another copper mine is in operation. Here are millions of beautiful ferns and wildflowers, forget-me-nots, anemones and buttercups being the predominant varieties.

Through a protected channel to Resurrection Bay, one of the

best harbours on the Alaskan coast, the vessel sails to Seward. Backed by beetling hills, broken with a low divide that slips gently into the mountains and fronted by a tranquil bay, Seward's situation is a decidedly attractive one. Built on gradually raising ground, with a slate bottom, the sanitation of the town is perfect.

A naval coaling station has been established here, and it is expected that within a short time thousands of tons of anthracite and bituminous coal from the Matanuska coal fields will be placed therein for the use of the United States warships. Seward is practically 1,500 miles nearer to the Philippines than the Mare Island Naval Station at San Francisco.

It also is the outfitting point for many hunters who seek trophies in the Kenai Peninsula. So abundant is the game in this section that several times the car running along the track has collided with flocks of partridges.

When the town was founded in 1902, its only inhabitants were a white man named Lowell and his native family. He is said to be a direct descendant of the family which founded the town of Lowell, Mass. Not thinking the land had any particular value the Lowell family did not file upon it, but after the arrival of the Alaska Central railroad engineers, Mrs. Lowell applied for a homestead. She later relinquished her right, and recertified scrip was filed by the Ballaine Brothers, by whom the idea of building a railroad was conceived. Mrs. Lowell was given \$4,000 in cash and \$40,000 in town lots.

Seward passed through the boom stage and then settled into a substantial town, dependent entirely upon its own resources — the many paying quartz mines and placer camps that have been located. It has the usual number of churches, a branch of the Y. M. C. A., a commercial club and all the institutions that go towards making up a modern city. There are two doctors, but owing to the healthfulness of the climate or the

water or other fortuitous conditions, no undertaker has been able to make a living there. There is an axiom that people never die at Seward except by accident.

More than 100 years ago Governor Baranof, a Russian prominent in the history of the territory, established a ship-building yard on Resurrection Bay. These were the first ships constructed on the western shores of America, one of them being launched in the summer of 1794. The "Iron Governor" chose Resurrection Bay, where the town of Seward is now built, because it afforded him a perfectly protected harbour and the necessary timber. Beyond the narrow passage at the entrance, the bay opens into a land-locked sheet of water, fifteen miles wide. It has the fault of many Alaska harbours—it is too deep. But this is not necessarily a drawback. The waters contiguous to Seattle are extremely deep, but that condition does not seem to have hampered its development into one of the most important shipping centres on the Pacific Coast.

The builders of the Alaska Central Railroad planned to tap the Matanuska coal measures, two hundred miles in the interior, but after seventy-two miles of steel had been laid, it was learned there was no likelihood of the fuel beds being opened to development and further construction work was abandoned. A railroad automobile car makes trips from Seward to the head of the line at Kern Creek, carrying supplies to a number of quartz mines, which, owing to a lack of fuel, are operated on a limited scale.

While the scenery along this railway has not the broad, rugged grandeur of that seen from the Copper River and Northwestern Railroad running from Cordova, a trip over the line is well worth the time expended. The line passes through sylvan scenes to Kenai Lake, and is fringed with grass-grown prairies and good timber. After crossing a divide, it runs through rough country where the altitudes of the peaks are



Photo by Hegg.

"KISSED BY SUMMER'S SUNS AND FED BY WINTER'S SNOWS, THEY COME TEARING DOWN CAN-
YONS . . . TOSSING HIGH THEIR FOAMING SPRAY, OTHERS FLOW SERENELY OVER
SANDY BOTTOMS, CLEAR AND SPARKLING, LIKE SHEETS OF SILVER."



Photo by Dobbs.
**SQUAW AND PAPOOSE BENEATH A
 THATCH OF DRYING TOMCOD**



Photo by Dobbs.

**NATIVE CHILDREN, A LITTLE AFRAID OF THE CAMERA, BUT
 WILLING TO HAVE THEIR PICTURES TAKEN**

from 6,000 to 8,000 feet, some of them being crowned by glaciers larger than those of Switzerland. Many pretty waterfalls and swift streams are seen after the car leaves the crest and reaches the down grade to Turnagain Arm, at the upper end of Cook Inlet, named for the great English navigator by whom it was discovered.

With the single exception of the Bay of Fundy, the tides are higher at Cook Inlet than any other part of the world, the extreme from highest to lowest being nearly sixty feet. The incoming tide runs in a "bore" from eight to ten feet high. Kern Creek, at the head of Turnagain Arm, is the starting point for many mining fields in the interior and along the shore of Cook Inlet. At Sunrise City are some placer mines and quartz veins which mill good values.

Kenai Peninsula, through part of which the railroad runs, is prolific in vegetable growth. Many farms have been cultivated along the route and these furnish the Seward markets with all the vegetables needed to supply the population. Seward is connected with the gold fields of Iditarod by a trail recently constructed.

From Seward vessels run to Seldovia, Sand Point, Unga, Kodiak and Dutch Harbor and settlements on the Alaskan Peninsula and the Aleutian Islands. On Kodiak Island the largest bear in the world are found and on Nunivak Island there are thousands of caribou. The industries in these places are fishing and mining. The Aleutian chain is largely volcanic, and once in a while a splendid pyrotechnic display may be seen. This route, however, is off the general line of travel.

Returning vessels on the Southwestern voyage first touch Juneau and sail through Chatham, Peril, Olga and Neva Straits to Sitka, sometimes stopping at Killisnoo, a fishing village, en route. The ship winds through the same labyrinthine maze of water margined by woods, that distinguishes the jour-

ney through the Inside Passage. Sitka lies in an island-studded harbour that is one of the most beautiful in Alaska.

Surrounded by high mountains, more rounded by erosion than those along other parts of the coast, and with Mount Edgecumbe, clear-chiselled against the blue sky in the western background, it affords a scene decidedly picturesque. The water in the harbour is as clear as crystal, and objects may be seen on the bottom at a depth of forty feet. Usually the arrival of a ship is greeted by a number of natives who offer for sale slippers, baskets, hammered copper ornaments and other crudely constructed articles.

Baranof Island, on which Sitka is situated, is named after the noted Russian governor. It was the first capital of the territory after the transfer. It is veiled in historical interest, and a few of the incidents pertaining to its early history are dealt with in another chapter of this volume.

For the tourist, the points of interest to be visited are the Mission and Industrial school, the Indian village that straggles along the shore-line, the Russian cemetery, the old Russian blockhouse, the Græco-Russian Church, with its chimes that were brought across the Siberian Steppes from Moscow, and the famous painting of Madonna and Child, the masterpiece of some monk whose name has been lost to history. The church pipeorgan is more than 100 years old and still gives forth sweet music when touched by the hand of a musician.

The old blockhouse brings thoughts of the bloody battles that were fought between the Russians and the natives, while the many totem poles interest those of a retrospective mind.

One of the attractions of the place is "Lover's Lane," a gravelled path built through rustic scenery to the banks of Indian River. The byway is bestrewn with almost every kind of wildflower and the trees are hoary with moss. It was along this path the Russian Princess, whose phantom later was pur-

ported to inhabit Baranof Castle, strolled with her ill-fated lover.

The pathway had grown over with vegetation when the United States took possession of the territory, but a new path was cleared in 1884. Much ingenuity was manifested in cutting the new trail so as to bring into view all the best points of scenery and the mysteries of forest growth.

Along Indian River, a clear, sparkling stream, are many ferns with spreading fronds; trees of the well-named Devil's Club, with its wide, tropical leaves; moss and lichens of every variety and bushes of golden salmon berries, blue berries, moss berries and raspberry and strawberry vines scattered between. The stream is spanned by rustic bridges and in the clearings along the shaded river bank are the remains of a few buildings which obviously are of Russian origin. Croaking ravens fly overhead, and tiny humming birds, with burnished breasts, flit between the boughs.

The Baranof blarney stone, reputed to have the same powers of imparting cajolery to the tongue as its namesake in Ireland, lies at the side of the trail. It is marked with the names of American war vessels that visited Sitka in the early days of its history, and also with Russian characters. Many improbable legends have been built around this rock.

There is another romance connected with this shady pathway. It is related that many years ago two American officers, who had been comrades for years, fell in love with a beautiful, clear-skinned, dark-eyed Russian girl. The ties of friendship quickly were broken, but suddenly restored. As it is ever the way with woman, the time came when she made her choice. Thereafter the rivals started off together on a hunting expedition. Only one of them returned and he reported that his brother officer had been gored to death by a stag. A few days later other officers made a search and discovered the body of the

successful aspirant for the girl's hand in the tangled gorse. 'A bullet hole in his heart bore mute testimony to the tragedy. Returning, they found the unrequited suitor dead in his bed. Two versions of the cause of his death were given — that the ghost of his victim had appeared to him and that he had thereupon died of fright, and that he had swallowed a dose of poison. The official report called it accidental gunshot wound in one case and heart disease in the other.

Indian River is not the only stream where the sportsman may experience all the thrills that come from the tugging of the gamey trout. Behind the town is a lake that teems with game fishes, and scattered in every direction are little brooks and creeks, where trout may be landed at almost every day of the year.

Apart from the fishing industry, which is carried on in all parts of Alaska, the people of Sitka to a greater or lesser extent are interested in mining. The Chicagoff Mine, where a big stamp mill runs night and day, is but a few miles from the town, and a gypsum plant, which produces a large portion of the plaster of Paris used in the United States, is another centre of industrial effort.

Opposite Sitka is Japonsky Island, so-called because a Japanese junk, carried from faraway Nippon by the Kuro-Siwa, or Japanese current, many years ago, found refuge there. Six miles north is Old Harbor, where Baranof builded a town that was destroyed by the natives. Twelve miles distant are three hot springs. In 1860 the Russians erected a hospital at these springs, which are said to have great medicinal value. An effort was made in 1912 by residents of Sitka to rehabilitate the sanitarium but it was learned that the government had withdrawn from entry 160 acres of land surrounding every hot spring in Alaska and the project was dropped. It is said that eggs may be boiled in these springs and if the tourist is

short of eggs he will find a cold, clear lake a short distance away where he can obtain trout that will answer the purpose.

Silversmithing is the principal industry of the native women, while hunting and fishing is the favourite vocation of their flat-faced husbands. Curiously carved bracelets, rings and other articles of barbaric adornment are manufactured by the Sitka natives and now that gold has been found on the Island, it is probable that they will make ornaments of this metal also. Basketry is another one of their forms of employment. From Sitka, vessels return by various routes to Seattle, but as a general rule they call at the mining and fishing settlements of Southeastern Alaska which have been visited on the Northern trip.

CHAPTER VIII

BUYING FROM INDIANS

Purchaser should keep eyes open — Ivory artificially aged — Elk teeth made while you wait — Natives shrewd bargainers — Copper and Silver ornaments — Native engraving on ivory — Chilkat blankets — The story of basket weaving — Helen Gould's prize — Yakutat baskets highly prized — Attu baskets best workmanship.

BECAUSE the native of Alaska places little value on his time, visitors to the territory will meet some difficulty in bargaining with them for the beaded moc-casins, hammered copper and silver ornaments, carved ivory, baskets and other wares. In Southwestern Alaska these articles generally are offered for sale by the wives of the tribes, but at Nome and in the interior, the tourist will find no sex discrimination among the Eskimos, males and females alike peddling ivory-carved cribbage boards, pieces of ivory, coloured with the ages of a thousand years, and many kinds of furs.

In buying old ivory, it is a good plan to consult somebody who knows the customs of the country, for in recent years Poor Lo has become aware that the soft velvety tinting of old ivory is highly prized by his white brethren and with true business instinct has discovered artificial means of colouring the material. A short boiling in seal oil will give a walrus tusk as much tone as it would acquire from the elements in several hundred years. Old ivory, like antique furniture, can be made while you wait.

Walrus teeth also are offered for sale by the Eskimos. A few years ago these were sold at a price of about fifty cents the dozen, but in recent times white men, in whom the desire

to be ranked as predatory plutocrats has overcome their conscientious scruples, by a judicious use of lathes and polishing wheels, have converted thousands of these walrus molars into "genuine elk" teeth. These imitations are so cleverly executed that even an expert finds difficulty in differentiating between the real and the spurious. Full many a member of the Benevolent and Protective Order of Elks is proudly wearing on his watch charm a tooth that had its original sphere of usefulness in masticating mussels, sea-grass and other food that entered the voracious mouth of a walrus. The development of the "elk tooth" business of course created a big demand for walrus grinders, with the result that the Eskimo raised his prices. The teeth now are sold at prices ranging from twenty-five to fifty cents each.

In buying furs from the natives, the stranger in Alaska perhaps will find it to his advantage to rub his hand along the pelt a few times, as the native conscience does not bar the use of a little lampblack which greatly improves the appearance of the hide.

In Southeastern Alaska the native women are sharp, shrewd bargainers and when they cannot receive the price which they deem the article to be worth, they await the arrival of the next steamship, or sometimes keep it for a year or longer, rather than sell it a few cents below the price placed on it. They take no account of time or the cost of travel.

In Nome and the lower Yukon River districts, the natives offer for sale many implements and ornaments carved out of ivory. They probably learned to make ivory toothpicks from the whalers or explorers in this region.

They are a simple-minded people and much afraid of anything which they do not understand. In 1899, the writer was camped on the beach at Nome, in company with an Englishman who had a plate of false teeth. Some Eskimos came

along one day, offering ivory toothpicks for sale. The Englishman nonchalantly put his hand to his mouth, pulled out the plate and began inserting one of the toothpicks between the bicusps. The natives gave a yell and streaked across the tundra as fast as they could travel. Later one of them mustered up sufficient courage to return for his wares.

A Nome bartender, annoyed by a number of Eskimos who had formed the habit of wandering into his saloon to listen to the "canned music" of his phonograph conceived a way of frightening them away. Two joints of one of the bartender's fingers had been amputated, and whenever he saw an Eskimo approaching he would poke the abbreviated member into his ear or eye. It would give the impression that his finger had sunk into the centre of his head. The Eskimos would take one look at this performance and then hurriedly leave, never to return.

But however simple-minded the Northern native may be in some respects, they quickly learn to drive hard bargains and, as a general rule, the tourist in Alaska can buy Indian baskets or other products just as cheaply in the stores as from the native vendors.

Ornaments made of hammered copper and silver can be purchased at any of the towns in Southeastern Alaska, the silversmiths of the Sitka tribes and the Chilkat coppersmiths living around the head of Lynn Canal being very skilful in this work. Their principal products are spoons, rings, bracelets and blankets.

Before the advent of the white men in the country, the natives possessed little other metal than copper, which, it is surmised, they pried out of the matrices at the head of White River. The discovery in comparatively recent times of many tons of native copper nuggets concentrated in the stream beds in that locality, corroborated this theory. The natives along

the Arctic coast of the territory are believed to have acquired their copper from the fittings of lost exploring ships, but it is more likely they obtained this metal from the copper lenses which have since been discovered northward of Kotzebue Sound and along the Arctic coast.

Copper ornaments were the most venerated charms of the Chilkat and other tribes of Indians in Southeastern Alaska, while in the Northern region the metal was used for more practical purposes. It never has been proved that these natives at any time had knowledge of the lost art of tempering the metal supposed to have been known to the prehistoric people in other parts of the continent.

Natives of Southeastern Alaska stand well towards the first rank as engravers and sculptors among the savage tribes. Their carvings, for the most part executed with the end of a file, a pocket knife or other crude engraving tool, are works of art in design and execution. The Maoris of New Zealand are clever carvers, but much of their work is done in wood, on the doors of their whares, or houses. This predilection also is manifested in the carvings upon their own faces.

With the arrival of every boat at a Southeastern Alaska port practically every piece of ivory is sold, but there always seems to be an abundance of it in the curio stores.

The arrival of the white man in the territory brought silver and gold and the white metal came to be used in preference to copper for ornamental purposes. Coins are hammered into long, smooth bars, bent and welded into the shape of bracelets or rings, ear-rings, combs for the hair, and then beautifully carved.

All the Alaska Indians are very imitative and while they retain the savage ideas of workmanship in their carvings, they frequently make faithful copies of designs appropriated from civilisation. At Nome the writer saw a picture of President

Taft reproduced on a walrus tusk. Obviously it had been copied from the pages of a magazine. What one sees in metal in Southeastern Alaska, one is pretty sure to see duplicated in ivory in the Northwestern portion of the territory. Watch chains, charms, buttons and many other things of an ornamental nature are made of ivory, and recently it became the fad amongst the natives to carve miniature "billikens," reproductions of "Mutt and Jeff" and other well-known characters of the comic supplements out of walrus and mastodon ivory. Their efficiency at copying anything they see lends circumstantiality to the theory of many ethnologists that the natives of Northwestern Alaska originally came from Japan.

The Chilkat blanket, which until a few years ago was the distinctive ceremonial robe of the native tribes from Vancouver Island to Prince William Sound, is woven of wool shorn from the hides of mountain sheep. It is not unlike the Navajo rug in gorgeous colouring, but, with very rare exceptions, the colours are brought into exquisite harmony. The Chilkat Indians, living at the head of Lynn Canal, are credited by tradition with having invented the crude weaving appliances. They make a few of these robes, but the white men brought simpler and more expeditious methods of obtaining covers for the native bed, with the result that blanket-weaving slowly is being relegated to the realm of lost arts. Throughout Alaska, the natives make robes and garments from the pelts of the marmots, which have their habitat on the southern mountain exposure practically all over the territory.

The collection of specimens of Indian engraving and rugs, however, has not yet become one of the fads, and while the natives find a ready sale for creations in metal and wool there is a much stronger demand for their basketry. The collection of Indian baskets has been fashionable for the past ten years, during which many of these intricately-designed and quaintly-

decorated receptacles have been utilised to adorn the dens, cosy corners and curio rooms in many well-ordered homes in the United States. In the period specified, the price has more than doubled.

Basketry is said to have been invented by the Aleuts, but as wicker work is found among the natives of Northwestern Alaska and as their pottery shows traces of having been moulded in baskets, there is some room for doubt on this point.

The most highly priced, and unquestionably the most beautiful, baskets come from Attu, a small island situated at the easternmost end of the Aleutian chain. Specimens of this work may be purchased very cheaply on the island, at an advance of about 100 per cent. at Dutch Harbor and at an increasing price as the distance from the point of manufacture is attained. It is asserted by collectors that there are less than forty basket-weavers left at Attu. There is little natural food on the island and during the past ten years disease and semi-starvation have greatly decimated their ranks. Arrangements recently were made by the government to ship seal carcasses from the Pribilof Islands to relieve the destitution with which they seem always to have been afflicted. Attu baskets are made of very fine straw, and woven through it are strands of richly-coloured silk. They range in price from \$25 to \$150.

The largest basket ever made was woven a number of years ago for Miss Helen Gould, now Mrs. Finley Shepard, as an appreciation of food given the natives at a time when they were sadly in need of it. Several months were expended in its construction by the most expert weavers on Attu Island, and it is probably the masterpiece of the Aleutian race.

Many years ago, according to tradition, three distinct tribes of Indians—the Thlingits, Haidas and Tsimpseans—occupied practically all of the coast of Southeastern Alaska. Although they speak different languages, they use a Thlingit

jargon for commercial purposes. The Haidas drove the Thlingits from the Queen Charlotte Islands, and now they extend along the coast as far as Prince William Sound and for a considerable distance into the interior.

This nomadic race gave to the world the ancient and modern Yakutat baskets. The early baskets of the Yakutats show considerable ornamentation around the rims, and were woven in a substantial manner. The texture is composed of slender spruce roots and grasses, coloured with vegetable dyes. Designed in various geometric angles and figures, these baskets easily are recognised by the collector. Yakutat baskets, mellowed with age, are highly prized by the collectors, and while many stores in various parts of the United States carry Indian baskets for sale, few of them carry genuine Yakutats.

In the interior of Alaska, the Indians manufacture baskets from birch bark, which, being pliable and tough, can be bent into almost any conceivable shape. The Indians of the far-interior Mackenzie River tributaries use similar material, but very few, if any, of the island tribes make the straw baskets which have become so popular.

A basket making craze struck Nome a few years ago and many white women learned the art. During the winter months, when there was little else than dancing parties to occupy their time, they foregathered during the sunless afternoons, bringing their weaving with them, much the same as their progenitors in New England carried their tatting and knitting. In the region north of the Aleutian peninsula, practically all of the baskets are made of straw and fine grass, gathered by the natives in swamps and lagoons. Some of it is sold to the white women.

By the Indian women of Southeastern Alaska, root gathering is regarded as a diversion. They view these expeditions, as well as berry-picking ventures, in much the same light as a

Sunday school miss views a picnic. The old women form a party, taking their blankets, cooking utensils and a few youngsters along with them, and live in the woods for days. The roots are scraped, then parboiled, and then left in a pan of water for two or three weeks. When, in the opinion of the oldest squaw in the camp, the material has become sufficiently pliable, it is soaked in a pan of lukewarm water. The next process is to remove the fibrous tendrils from the parent roots, in which process a peculiarly-shaped knife is used. One end is attached to a stick set firmly in the ground, and the slim, tenuous root is scraped with a clam-shell until it has a glossy and smooth appearance.

When the weaving is commenced, the start is made on the bottom of the basket, which is held in place between sticks until this part is woven. Then the sides or walls are built up.

Many of the Indian tribes, especially those on Attu Island, cover fantastically-shaped bottles, jugs and other vessels with beautiful grass work. How they make each strand fit perfectly around these vessels is indeed wonderful. Cigarette and card cases, beautiful in design, also are manufactured by these ingenious people.

One of the remarkable things about all Indian basket weavers — remarkable because of their unsanitary methods of housekeeping — is that each basket is carefully wrapped in cloth during the process of manufacture to keep it from becoming soiled.

Baskets are offered for sale in nearly every curio store in Alaska, and frequently specimens of work done by the Fraser River Indians of British Columbia will be found side by side with that of the inhabitants of Point Barrow. The Point Barrow natives make their baskets of grass and they usually are decorated with pieces of fur, fawn reindeer hide, or walrus ivory. The baskets manufactured by the Fraser River Indians

are made from the roots of cedar trees, and ornamented with strips of wild cherry and crabapple bark.

The Chilkat Indians, who for many years waged war on the natives of the interior, weave their baskets from spruce roots. Evidently the artistic temperament is not highly developed in this tribe, for they use very little colouring. Perhaps they reserve all their artistic feelings for their blankets into which they weave all the bright colours in the spectrum.

The Haidas Indians manufacture baskets and hats of straw and spruce roots. The hats are worn at potlatches, war dances and other notable events. Indians in British Columbia and in Oregon and Washington do much basket weaving.

The product of the Indian race, from Oregon as far north as Point Barrow, may be purchased in Seattle and Portland and in practically every city in Alaska, but the store-purchased basket has not the sentimental value of the one bought from the squatting squaw in the Indian village, with its memories of totem poles, smoky cabins, dirty children and snarling dogs.

To those travellers in Alaska who become addicted to the curio or basket-buying craze, the advice is offered that more satisfaction will be found in the article that is purchased in its native environment than can be derived from the same thing if it be obtained in a common-place store.

CHAPTER IX

ROUTES TO NOME AND INTERIOR

Unalaska and the Aleutian Islanders—The route via Cordova and Chitina—Skagway route is the most popular in summer—Haines and the Chilkat Indians—Skagway, a city of romance—The Arctic Brotherhood—A trip on the White Pass and Yukon Railway across the mountains and along lakes and rivers to Atlin City.

THERE are three routes by which Nome, the metropolis of Bering Sea, and Fairbanks, the largest city in the interior of the territory—"Alaska's Golden Heart"—may be reached from Seattle.

The first and most direct is through the Strait of Juan de Fuca, thence across the Pacific Ocean to Unimak Pass, thence through Bering Sea to Nome, thence across Norton Sound to St. Michael, and from that point up the Yukon and Tanana Rivers to Fairbanks.

The second route is from Cordova, by the Copper River and Northwestern Railroad to Chitina, thence across a trail of about 400 miles to Fairbanks, and thence down the Tanana and Yukon Rivers to Bering Sea.

The third journey is via Skagway, at the head of Lynn Canal, across the coast mountain range by the White Pass Railroad to White Horse, down the Yukon River to Fort Gibbon. To Fairbanks the route from Fort Gibbon is up the Tanana River. To Nome it is down the Yukon River to St. Michael, and thence across Norton Sound.

Apart from what charm may be found in a waste of water stretching from horizon to horizon, the first journey offers nothing in the way of scenic attractiveness, unless it should

so happen that the vessel makes a call at Dutch Harbor and Unalaska, on Unalaska Island. But as these historic places, where the Russians made their first attempt at settlement, lie sixty miles out of the regular line of travel, passenger ships seldom stop there.

Unalaska is one of the prettiest places in the North. Here will be found the first Græco-Russian church erected in the territory, which, like a similar edifice at Sitka, is filled with beautiful paintings and ornate tapestries. Dutch Harbor and Unalaska lie about half a mile apart, the latter at the head of a land-locked bay surrounded by rounded, fertile hills. It is peopled by a few traders and many natives, some of whom are direct descendants of the early Russian traders. It is the headquarters for the United States Revenue Cutter Service in Alaska and a coaling station for the craft operated by this department of the government is maintained there. The Jessie Lee Home has a mission at Unalaska, where a number of native and half-caste children are cared for.

A few stunted spruce trees which are said to have been planted by the Russian settlers, comprise the only growing timber on the island, but the grass grows waist high, and in the fields are thousands of wild violets and other fragrant flowers.

In former years many thousands of caribou subsisted on the island, their keen eye-sight being ample protection against the primitive native weapons, but with the importation of rifles the herds soon were exterminated.

The Aleutian Islands, of which Unalaska is the principal settlement, jut out boldly from the coast of Alaska, extending far into the Pacific Ocean. The climate, being governed by the Japan Current, the Gulf Stream of the Pacific, is moderate at all seasons of the year, the biting cold of winter and the oppressive heat of summer both being pleasantly noticeable by

their absence. Good fishing may be found in the mountain streams, but except for a few ptarmigan, a species of grouse, the island has very few attractions for the hunter. To the tourist, it offers one of the cheapest markets in Alaska for the purchase of fox skins and other furs and also of specimens of Attu basketry.

Lack of picturesque scenery does not prevent many people from taking the ocean journey to Nome. It offers the advantage of reaching the point of destination in about nine days, as against from eighteen to twenty days by the other routes.

The Cordova and Chitina route is traversed only by those who have an abundance of time. The trip across country from Chitina offers much in the way of scenic attractiveness, but it has its disadvantages. The traveller must furnish his own horses and buckboard, and although much work has been done on the road, there are more passable thoroughfares in Alaska. Because it is several hundred miles shorter, it is used during the winter season, when the Yukon River and Bering Sea are covered with ice. Winter mails to Nome and Fairbanks are delivered by this route. It is probable, however, that with the building of a road from Seward to Iditarod, by which the distance is reduced, the Nome mail after 1912 will be carried over the new thoroughfare.

The journey via Skagway is the most popular one in summer, especially to those who are robbed of the joy of ocean travel by seasickness. The Inland Passage, described in previous chapters, is followed to Juneau and from there the scenery is surpassed in few parts of the world.

Through Lynn Canal, a narrow strip of water edged by glacier-capped mountains from which many fretting waterfalls tumble down to the sea, the distance to Skagway from the triumvirate of cities at the head of Gastineau Channel—Juneau, Douglas and Treadwell—is one hundred miles.

Fort Seward, a United States Army post, lies under one of these mountains. Farther along, Haines, formerly Haines Mission, the terminal point of the Dalton trail to the interior, is seen.

Haines lies at the head of Portage Cove, a little indentation in the coast line. The townsite is situated on the neck of a peninsula between the Chilkat River and the Canal. Long before the white man entered Alaska, Haines was the point where the Indians from the interior brought their furs to trade with the Chilkat Indians, a warlike tribe which from time immemorial waged war upon the natives living beyond the coast range. In these battles many were enslaved. The first house was built in 1878, when George Dickenson established an agency for the Northwest Trading Company, a concern which since has been merged into other enterprises.

Situated in one of the richest agricultural regions in Alaska, Haines is surrounded by many profitable farms. Thirty miles away, through a forest of good timber, lies Porcupine, a mining settlement. Sixty miles distant are the Glacier coal beds. Haines also is the outlet for the Rainy Hollow country, where several good copper prospects have been located. A railroad is projected from Haines to the head of the White River Valley and Fairbanks.

Twenty miles from the town is the Klukwutoo settlement, the home of about five hundred natives. Haines is the headquarters for the tribes that form the Klukwan-tann — a host of tribes and sub-tribes. They hold their potlatches and dances in the city. Many of their houses are decorated with totems carved on boards. Some of these ornamental timbers are lashed together with rawhide thongs, which indicates they were made before the natives discovered a method of manufacturing copper nails. This is the home of the Chilkat Indians, a branch of the Thlingits, the most war-like of all the

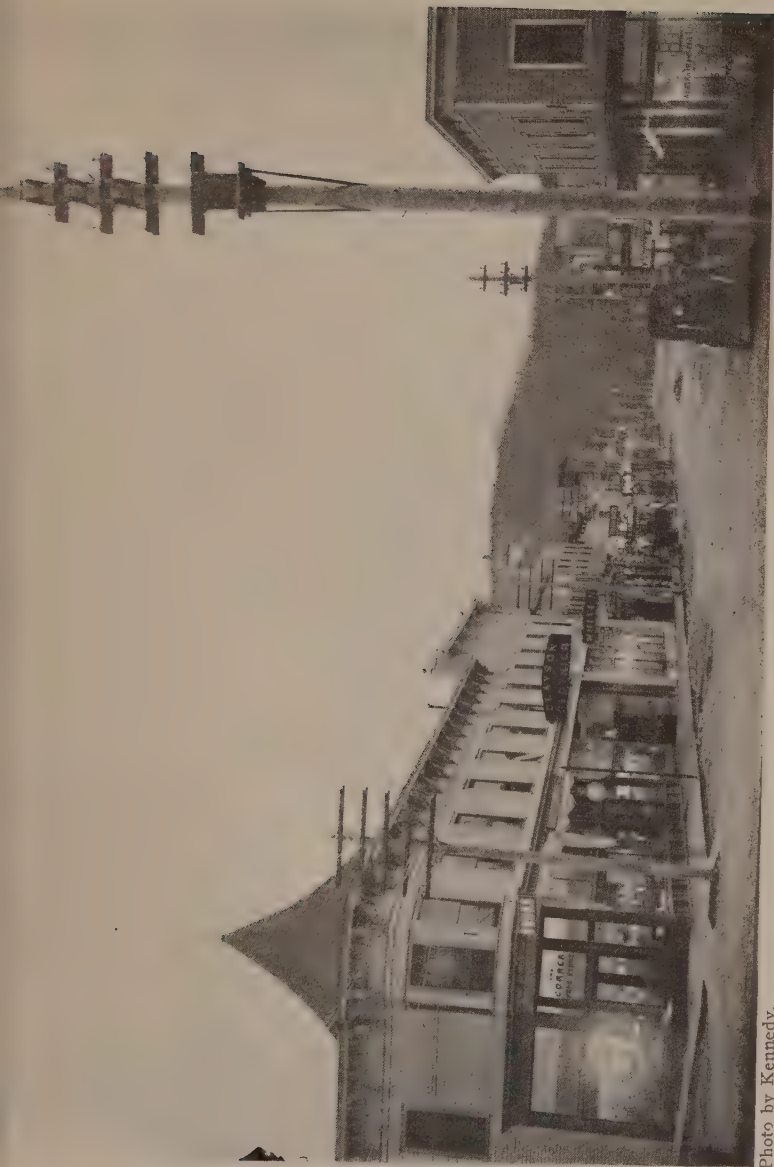


Photo by Kennedy.

SUMMER NIGHT AT CORDOVA, THE TOWN THAT SPRANG INTO EXISTENCE WHEN THE CONSTRUCTION OF THE COPPER RIVER RAILROAD WAS COMMENCED



COPPER RIVER BRIDGE, BUILT AT A COST OF ABOUT \$2,000,000. THE ICE, UPON WHICH THE FALSE WORK FOR THE BRIDGE WAS LAID IN WINTER, WENT OUT LESS THAN AN HOUR AFTER THE LAST BOLT WAS DRIVEN

Northern tribes, who for many years dominated the tribes of the interior and prevented white men from crossing the coast range through Chilkoot Pass, a steep and icy trail which they discovered. Although in recent years they have become addicted to eating food similar to that consumed by white people, salmon and game still form the staples on their bill-of-fare.

For many generations these Indians have been accustomed to making long and hazardous journeys over the mountains and this occupation has brought a physical development that is remarkably different from other tribes, whose members, by virtue of many years of paddling in canoes, have developed tremendous chests and slightly atrophied lower limbs.

Perhaps one of the reasons why the Indians made Haines their headquarters lies in the fact that the country contiguous thereto is extremely fertile.

The railroad projected from this point to the head of White River, where large copper nuggets, sometimes weighing as much as two tons, are found, when constructed, will traverse thousands of acres of meadow land, covered with wild red-top, wild rye and other grasses. The Indian Bureau of the Department of the Interior in 1912, appointed an agent to instruct the Indians at Haines in the cultivation of the soil.

In this region prospectors turn their horses loose in the fall to forage for themselves and corral them again in the spring. Interesting from a zoological standpoint is the statement of a number of prospectors who declare that in the spring—when the wolves are able to travel over the snow crust and hoofed animals sink to the bottom—the horses and moose “yard up” together for mutual protection against predatory animals.

The moose in the spring, to protect their young against wolves, enter a compact formation not unlike the army manoeuvre known as the “British Square.” They stand back

to back in a circle, with the calves in the centre, and slash at their assailants with the sharp-pointed hoofs on their forefeet.

Skagway, at the head of Lynn Canal, apart from its historic interest, is the starting point for the Interior country — the land of high mountains, great rivers and giant waterfalls. Gardening, if one may judge from the appearance of the hundreds of pretty cottages in this quiet city — quiet to those who saw it in the days of the Dawson gold stampede — is one of the principal forms of recreation. Every dwelling has its little garden plot, either upon the window sill or in the plot of ground surrounding the house. The soil must be very fertile, for nowhere can be seen taller or better developed plants of every description than are to be found in this town.

Skagway, the town that grew from a few tents to a city of fifteen thousand people in a few months, is filled with memories of romance and adventure. In 1897-98 many thousands of hardy, adventurous spirits gathered here from all parts of the world to commence their pilgrimage to the remote golden Mecca that lay behind forbidding mountains, beyond the roaring, raging torrents of the dreaded White Horse rapids, past the treacherous, boiling water of Miles Canyon, and the many weary miles of the broad and mighty Yukon. Some found a fortune, others a lonely grave, with naught but gurgling streams to chant their requiem; and still others, broken-hearted and disappointed, returned to acknowledge failure.

In the wild, gold-hunting days, the prudent visitor kept his revolver close to his hand. The city of tents was filled with fugitives from justice and the criminal element of other places. Then one had considerable difficulty in finding hotel accommodations. But not so now. The Skagway hotels are said to be the finest and best-managed hostelrys in the North.

Skagway is one of the prettiest towns on the Pacific coast. From a distance the mountains seem to float in fleecy clouds over the city. The sombre hills are covered with glaciers that glisten like fields of pearls. The woods are filled with dainty green ferns and a thousand varieties of beautiful flowers.

Skagway received its name from the native word, "Skagua," meaning "the home of the North Wind." Thlingit tradition says that every time a white man crossed the summit of what now is known as White Pass the warm breath of the Chinook wind melted the snow and caused a disastrous avalanche. To this day the more superstitious among the Chilkoots and Chilkats, when passing the harbour of Skagway, delay a moment and repeat a prayer, "Skagua eshan — oo — han." (O, Skaguay, have mercy upon us.)

It is a pretty legend. It tells of Chute, a brave, wild and reckless hunter, of his beautiful, dark-eyed sweetheart, Skugway; and the woman of mystery, Dugek. It tells how the dainty, graceful Skugway, after a quarrel with her high-spirited lover, floated away towards the mountains and finally disappeared in a seam in the rock. Heartbroken, Chute called and called upon her to return, but she answered him not. Later Dugek appeared to him as he sat fishing by the side of a stream.

"Chute," she said, "I am the woman of mystery. It is I who control the destinies of the mountains and the warm winds that sweep across their face. Let no stranger enter my realm and I will watch over thee and thine. Let not Skugway be disturbed in her slumbers by the footfall of the paleface."

It may be that the Indians for many years jealously guarded the mountain trail to the Interior from the white man, because of Dugek's warning, but there is reasonable ground for the suspicion that they were prompted also by the desire to keep

to themselves the profits made in trading with interior natives, upon whom, from time to time, they waged war and levied tribute in furs and slaves.

Whether Dugek was offended by the unwelcome invasion of white men or otherwise, it is nevertheless a fact that one of the most disastrous tragedies of the North occurred on the Chilkoot trail in 1898, when pack-burdened white men climbed the steep trail in thousands. Chinook winds melted the snow, and an avalanche crashed down the mountain side, killing more than seventy argonauts and wounding many others.

"Dugek is enraged," the Indians said.

White men pronounced it one of the vicissitudes of the country and proceeded to bury their dead and care for their wounded.

In the stampede to Dawson, several pieces of commercial ore and free-gold quartz were picked up in the streams adjacent to Skagway, but although many prospects have been found, no paying mines have been developed.

The long street which forms the principal thoroughfare of the city is crammed with good buildings, many of which were erected at the time when the Klondike stampede was in progress. Some of these structures bring back memories of stirring events, when gambling was in progress and "Soapy Smith" ruled the criminal element that infested the place.

Strange as it may seem, considering its early history, Skagway is now peopled by the most law-abiding citizens in the North. Owing to the absence of criminality, it has not been necessary to hold a term of the United States district court there for several years past. Skagway was "cleaned up" when Smith and his gang of followers were driven out. And it has been kept clean.

The town has good schools and churches. It is the home of the first camp of the Arctic Brotherhood, a strong fraternal

organisation founded fourteen years ago by American and British residents for mutual protection against grafting officials, cheating gamblers and other breakers of the law. The motto of the organisation is "No boundary line here." It developed into a social and fraternal order and branches since have been established in almost every town in Alaska. The home of the Skagway lodge is situated on the main street of the town under A. B. Mountain, so named because peculiar deep clefts in the rock remain filled with snow long after the balance of the hillside is bare, thus leaving the letters "A. B." standing out clear and distinct, as though painted there in white by some giant hand.

Although situated on a wide flat, Skagway, like nearly all other Pacific coastal towns north of British Columbia, never will be an ideal place for the automobile. Many side trips may be made from Skagway at the expenditure of a little time and money, but these peregrinations are by water, with the one exception of a trip on the White Pass and Yukon Railroad that "snakes itself" across the mountains to the source of the Northern "Father of Waters."

Rock-ribbed, steep, as though forbidding man to attempt to climb their lofty heights, range after range of mountains raise their snaggy, saw-teethed edges to the clouds; glaciers dead and alive rest peacefully like icy giants asleep, or grind away at their epoch-making toil; huddled together in the mountain tops, streams that can be spanned in a step gurggle through the rocks to join one of the greatest waterways of the continent; miniature rivers race over the surface of the glaciers; silvery streams, half hidden in canyons, can be seen in the depths below; alluring lakes in every valley and mountain depression absorb from the sky its ever-changing shades of blue and grey and pink and crimson; misty torrents clatter over the rocks, while rainbows flicker and play in their mists; and,

save for the insignificant train that crawls puffingly along the dizzy slopes, through man-made tunnels and over spider-legged bridges, all is as when the world was made. It is a scene never to be forgotten.

Sturdy men, imbued with courage and determination, looked at this coastal barrier.

"The only way to carry freight and passengers across those mountains is by balloon," they said. "This is an aeronaut's job, not an engineer's."

Yet it seemed but a few days from the time the work was begun till the railroad was finished and those who, foot-sore, bone-weary and heart-sick, had laboriously climbed the mountain path, carrying their goods and chattels on their aching backs, were able to ride over the mountain in all the comforts that a Pullman train affords.

This road, constructed by M. J. Heney and E. C. Hawkins, builders also of the Copper River and Northwestern Railroad from Cordova, is one of the greatest engineering feats in the world. A trip over it is one to be remembered. It is full of thrills from the time the train enters the Skagway River Valley till the top of the summit is reached. The austere mountains above, the flower-bestrewn valley below, make the journey a most captivating one. The train at times glides along the side of a sheer wall, with a cliff of rock hundreds of feet high on one side and the dark depths of an abyss on the other. The rocks jut out at sharp angles from the precipitous wall on the side of the roadbed and it appears as though the speeding cars must dash over the cliff, but they swing around a curve, and the train continues on its sinuous ascent. Water that is hungry green, and later white with foam, as it dashes over cataracts, is seen here and there all along the route and in one place, just beyond a dark tunnel, a very high bridge has been thrown across a chasm at the bottom of which rages the

Skagway River, crashing over the boulders on its way to the sea.

This is known as "Dead Horse Canyon," because in the days of distress and travail, five half-starved pack-horses, rather than continue longer to struggle with their burdens up the steep grades, are said to have hurled themselves over the cliff to be dashed to death on the rocks below.

"This blasted country is so steep that it bends over backwards," remarked a survey's flagman when the road was being surveyed. It appeared as though mountain goats instead of men must have been engaged in the construction. In places the roadbed is cut into the solid rock in "s" and "z" angles. Here and there on the hillside stunted spruce trees and willows grow and between the crevices and crannies in the rocks splinters of grass raise their green heads. In the days when supplies were carried on men's backs across these spurs, the willows and spruce were held sacred. To have cut them would have been regarded as a capital offence, for they were used to assist the struggling crowds up the steep inclines.

Twenty miles from Skagway, beyond the summit of the range, a bronze monument marks the boundary between American and Canadian territory. Here the flags of the dominant Anglo-Saxon races float close together.

The salty ozone of the sea is left behind. An environment of dainty loveliness takes the place of stupendous grandeur. The train glides along the shores of lake and river, which reflect the shadows of tree and hillside. The headwaters of the Yukon have been reached. With increasing speed, the locomotive runs along Thompson River to Middle Lake. These lakes are strips of sun-kissed blue, skirted on one side by pebbly beaches and by buff-coloured mountains on the other, with here and there a glen studded by poplar, larch and balm of Gilead trees. The slopes are covered with fireweed,

larkspur, golden-rod, marguerites, dandelions, asters, and other varieties of wildflowers, but there is an absence of the moss and dank vegetation that marks the coastal plains and hillsides. The air is less heavily charged with moisture.

Deserted and silent is the ephemeral town of Bennet, once a settlement that teemed with all the life and hurry and frenzied excitement of a gold stampede, where bets and meals had to be spoken for in advance and where the clicking of the ivory ball or the roulette wheel, the droning monotone of the crap-dealer and the raucous voice of the dance hall "bawler" were heard from dawn to dark and from dark to dawn again. All that remains of it is a few tumble-down shacks that once were used as gambling houses and saloons. It is like a city of the dead.

The train rattles along the shores of the lake, where once men had toiled with dog team or pack-horses or where they had builded their first boats to float down the Yukon to the Dawson El Dorado. Lake Bennet is one of the most beautiful pieces of water in Alaska. It is twenty-seven miles long, and from half a mile to five miles wide. On one side it is as level as a plain, on the other side mountains raise their crests to great elevations, while off to the right a few glaciers are visible. At the head of the lake, near the point where once the frontier town stood, a stop is made for luncheon.

Lake Bennet teems with a species of mammoth trout that resembles a land-locked salmon. These fish bite readily at a trolling spoon, and put up a game fight when hooked. A specimen of this fish weighing twenty-one pounds furnished one of the courses in an "Alaska product" dinner given to Secretary Fisher and his party by O. L. Dickeson, president of the railroad, in his private car.

Caribou Crossing, at the foot of Lake Bennet, is a narrow stream connecting Lake Bennet with Lake Nares. It is

ALASKA

SCALE OF STATUTE MILES

0 50 100 150 200 250 300

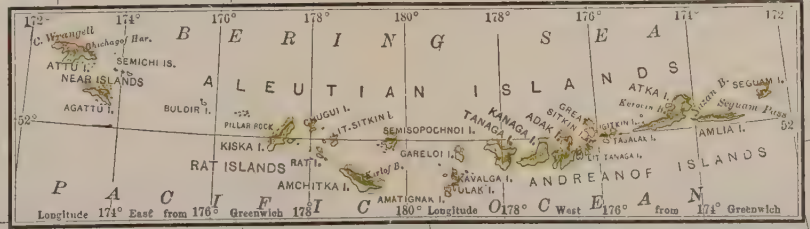
SCALE OF KILOMETERS

0 100 200 300 400 500

Important towns are shown in heavy type
Railroads shown thus 



- Gold placers.
- ✕ Gold and silver lode mines and prospects.
- Copper mines and prospects.
- ▲ Tin deposits.
- Coal-bearing rocks.
- Areas known to contain workable coals.
- Anthracite, semi-anthracite, and semibituminous, including the better coking coals.
- Bituminous and subbituminous coals.
- Lignite.
- Petroleum seepages.



Caribou Crossing, at the foot of Lake Bennet, is a narrow stream connecting Lake Bennet with Lake Nares. It is

spanned by the Northernmost swinging bridge in the world. Caribou Crossing was so named because in former years herds of wild reindeer numbering many thousands came to this place to make their crossing from the plains to the mountain regions in their annual migrations. Indians declare these animals were so numerous that their horns looked like tops of the forests and that sometimes it took them two months to pass this point.

Caribou Crossing is the dividing line between British Columbia and Yukon territory. There is a good hotel here as at all other stops along the line. Like all of the section houses and every other structure occupied by an employé of the railroad, the hotel is adorned with a cultivated garden. President Dickeson conceived the idea of adding the beauty of cultivated flowers to the natural beauty of the country. The vegetables eaten on its train and river steamers and in its hotels are grown on a farm near Skagway that is owned by the company, and the fish which form a course on the bill-of-fare in these places are caught fresh every day from the lakes and streams. This is one of the few places in the world where a man is paid to spend his summer in fishing for trout.

At Caribou one will notice a difference in the prices of commodities sold in the stores. American-made articles are the more expensive, while English goods, upon which no duty is paid, are cheaper.

At Caribou, connection is made with river vessels running to Atlin, a voyage of eighty miles through a chain of long, narrow lakes in whose depths are mirrored the snow-capped peaks and pine-clad hills that line their shores. Placer gold was found at Atlin in 1899, and since that time considerable mining has been done in that locality. The route lies through Nares and Tagish Lakes, to Taku Lake, thence through Golden Gate, a beautiful fresh-water passage, to Taku Inlet,

where connection is made with a railroad running along the shores of the Atlinoo River, a short, turbulent stream that connects Taku Inlet with Atlin Lake. Atlin City lies on the opposite shore of the lake and is reached by another steamboat. The lake shores are carpeted with moss, and here as in many other places, a bouquet of fragrant wildflowers may be gathered in a few minutes. To the lover of superb lake and woodland scenery the journey is wonderfully fascinating.

CHAPTER X

FROM CARIBOU CROSSING TO DAWSON

The source of the mighty Yukon — Fifty-Mile River and White Horse Rapids, where many lives were lost in the Klondike stampede — Miles Canyon — Lake Lebarge — Collins' tragic story — A ride through Five Finger Rapids — Dawson, past and present.

BEYOND Caribou Crossing, the train speeds along a high plateau where the bracing air is redolent with the pungent odour of balsam and pine and the delicate fragrance of wild roses. To the right are Lake Nares, Lake Marsh and Fifty-Mile River, a stream that connects Lake Marsh with Lake Lebarge. Here is the source of one of the greatest waterway systems in North America, a stream, which it has been calculated discharges every hour nearly one-third more water than does the great Mississippi.

Through the poplar, balsam and spruce trees that grew out of the moss-carpeted ground, flocks of mallard, widgeon, sprig-tail and other species of ducks could be seen flapping their way over the surface of the lakes and on the gravel bars of Fifty-Mile River acres upon acres of wild onions shot up between the rounded stones.

Here is the home of the Stick Indians, a jolly, mirth-loving tribe, kind-hearted and hospitable, who up until a few years ago were tyrannised over in a most brutal manner by the war-like Chilkats from the coast. Missionaries have done much for these natives. Few of them drink and all of them speak comparatively good English.

Watching one of these Indians drive a light, birch-bark canoe into the bank of the river, I addressed him in Chinook,

a jargon invented by the Hudson Bay Company's factors and spoken by all Indians who trade with this great organisation. I said:

"Klowhayah. Kah mika chaco?" (How are you? From where did you come?)

"Have you not learned to speak English yet?" he asked in reply. Then he told me he had come from Fort Selkirk and that he was quite well, thank you; and with true courtesy expressed the hope that I also was enjoying very good health.

Not many years ago this region was one of the greatest game ranges in the North American continent. Hundreds of moose occupied the gulches and draws in the winter and followed the snow-line in summer to evade the mosquitoes. Caribou in herds of thousands, after wading and swimming the ford at Caribou Crossing, subsisted on the moss growing so abundantly on the plains and hillsides. But with the invasion of the white man these animals, like the coveys of grouse in the forests and the mountain sheep and goats that climbed the mountains, have been driven to the more inaccessible places.

Running along Fifty-Mile River, it is noticed that the water gradually falls below the level of the railroad track and soon the great cataract of Miles Canyon and the White Horse Rapids are reached. In these treacherous waters hundreds of adventurers at the time of the stampede to Dawson gave up their lives. Thousands of gold hunters steered a flotilla of small craft through the seething cauldrons. The more cautious among them elected to walk, laboriously climbing the steep hill that forms one of the walls of the canyon and portaging their boats to an eddy about half-way through White Horse Rapids and below the most dangerous places. The men who walked did not necessarily manifest a lack of courage;

they simply had a proper and commendable regard for their lives. The conditions were summarised by a frontier wag, who, feeling cheerful at escaping from the rapids with his life after losing his boat and outfit, posted two placards on a tree near the head of the canyon. The first, with a finger pointing up the steep incline to the top of the wall, read:

"This way — two weeks."

The second notice indicated a route leading straight into the throat of the roaring canyon. It was marked:

"This way — two minutes."

The canyon is more than a mile in length and its basalt walls rise perpendicularly from the raging water to an elevation of about 200 feet. Above the upper gate the river gradually narrows from a width of about 1,200 feet to approximately 150 feet and the current increases to an alarming speed.

Many boatmen, although warned by the roaring of the cataracts, which, accentuated by the basalt walls which act as sounding boards, can be heard for miles, were unable to make a landing above the entrance to the canyon and, whether they would or not, were forced to make the perilous journey.

Once a boat is plunged into the seething maelstrom, there is no turning back. Only the quickest action, an iron nerve and the greatest skill and accuracy at the steering oar can save it and its occupants. The velocity of the water, as it crashes over the rocks, is terrific. A moment's hesitation, the slightest mistake of the pilot, more than likely ends in irretrievable disaster. A vacillating hand at the stern sweep will send the craft sidewise over one of the cascades into the devouring grip of the whirlpool — and there is the finish.

Half way through the canyon the stream widens perceptibly and here are a great number of rocks over which the surging water plunges madly, throwing clouds of spray high in the air. A narrow channel close to the frowning wall on

the right is clear of formidable reefs and offers the voyageur a small margin of safety, but even here he must avoid the whirlpools.

The outlet of the canyon is marked by the same high white walls, adorned with trees on top. A fall of nearly forty feet is accomplished in the canyon and the rushing water boils out in a deafening roar and with tremendous speed.

The White Horse Rapids are reached in a few seconds and, although the river is considerably wider, its dangerous swiftness is not decreased. Masses of green water crash over the rocks and turn to clouds of foam and spray. The river bottom is strewn with reefs and clefts. Again the seething stream contracts to a channel even narrower than before and one watching it wonders how such a stupendous mass of water can battle its way through this narrow channel. It is a funnel of churning, boiling cascades. Surveyors declare the centre of the stream is several feet higher than the water next the bank, a condition created by the speed of the current. Navigators must follow this crown of foaming water. To leave it means that their craft will be smashed to splinters against the hard, basalt walls. The waves in this cauldron dash up four and five feet high.

It has been said that men who went over the Chilkoot trail placed their lives in hourly jeopardy. It would be near the truth to say that those who shot their boats through Miles Canyon and the White Horse Rapids placed their lives in danger every second. In navigating swift water, there must be a crew of oarsmen and a pilot. It is necessary to propel the boat faster than the current will carry it in order to give it steerage way. Otherwise it would drift with the stream and quickly be dashed to kindling against the rocks or caught in a vortex and whirled to the bottom. Navigating a boat through this part of the Yukon is a real man's job. It is no occupa-

tion for a nervous person. Strange as it may seem, the work of running a boat through a rapids brings a feeling of exaltation that nothing else can produce and many people make a practice of shooting canoes through "white water" for amusement. None, however, choose Miles Canyon or White Horse Rapids for this form of recreation. A short distance below the rapids is the town of White Horse, the terminal of the railroad, but the train stops at the canyon that those who desire may enjoy a sight of this marvellous spectacle.

At White Horse is stationed a detachment of the Northwest Mounted Police. It is the outfitting point for a number of copper mines situated a few miles distant, many of which ship their ore to smelters on Puget Sound.

Steamers usually leave White Horse for Dawson in the evening, but as the trips are made in summer, when the sun shines practically all night, this makes little difference to the sightseer. Down the river a short distance is Lake Lebarge, a broad but shallow sheet of water about thirty miles long. On one side are high hills and on the other a flat country covered with wild geraniums and other flora. The outlet of Lake Lebarge is through a narrow, swift, twisting stream, the banks of which, cut by the current, leave many trees overhanging in the river. These are known as "sweepers."

About four miles from the lower end of Lake Lebarge is a clump of poplar and quaking asp, where is, or was, a wooden slab marking the grave of Joseph Collins, one of the unfortunates who met his death on the river during the great stampede. Collins was a man of extraordinary pertinacity. Three times he packed his outfit across Chilkoot Pass, and three times he lost it by accident. The first time his year's supplies were buried in the snowslide at Sheep Camp. He returned to Skagway and purchased another outfit. This time a sail altogether too large for the boat it propelled was

struck by a squall of wind on Lake Bennet, the craft capsized and the second outfit was lost. Still undiscouraged, and before his clothes were dry, Collins again was on his way to Skagway, where with what little money he had left he purchased another load of supplies and hired more packers. He built another boat which he guided safely through the dangers of Miles Canyon and White Horse Rapids, but on the river below Lake Lebarge, rounding a right-angle bend in the stream, his batteau was carried by the swift current against a "sweeper" and capsized.

Some miners camped nearby heard a shot in the woods. They found Collins with a bullet in his brain and written in pencil on a piece of birch-bark pinned to a tree was the message:

"Hell can't be any worse than this trail. I'll chance it."

The clear water of the Lewes, or Upper Yukon River, in which fish can be seen swimming away from the ship or leaping at flies near the shore, gradually becomes darker as the vessel floats down-stream. In places tundra water stained by decomposed moss and vegetation enters the main river and in other places creeks which have their source in glacial moraines, and are therefore heavily charged with silt, impair the sparkling clearness of the principal waterway.

Along the banks, when stops are made at wood camps, one sometimes will see what appears from a distance to be red moss, but which upon examination is found to be millions of crimson cranberries. Geraniums, roses, blue-bells, violets and other flowers grow luxuriantly and here and there masses of blossoming fireweed and fields of cotton plant make a strong contrast to the green of the moss and foliage.

The river winds between high terraces, sometimes denuded of timber, and around mountains, which apparently are ever changing their position. One time a mountain will appear

straight ahead. The boat makes a turn or two and it is seen off the beam or astern of the vessel. More circuitous twists and turns and the same old mountain will appear dead ahead again. It gives one the impression of passing the same point several times.

One of the pleasant surprises of the journey down the river is the Five Finger Rapids, so called from the fact that four rocks protrude to a height of about forty feet from the centre of the stream, dividing it into five channels. The river, because of the addition of many large tributaries, rapidly becomes wider, but it narrows considerably as the Five Finger Rapids are approached.

Here the water is very swift and as the steamboat dashes through the channel the passengers have a thrilling ride. The fantastically shaped rocks make the scene quite picturesque. In one of the swift channels there is an abundance of water and, as it is comparatively straight, there is no danger in steering a vessel through. The ride, nevertheless, is sufficiently exciting. The isolated towers of the rocks are the breeding places for thousands of fresh water gulls and terns, which there have sought sanctuary from foxes and other animals that prey on their eggs and young. By what process of instinct or reasoning the birds figured out that no living animal could swim the boiling current and make a landing on the rocks where they have found a refuge, is a problem for ornithologists to solve.

At Fort Selkirk, the Lewes River is joined by the Pelly and the two form the Yukon River proper. The Pelly cutting through hundreds of miles of clay banks, carries a large amount of mud and from this point all hope of catching greyling and trout on the Yukon with artificial flies may as well be abandoned. In the streams running from the hills, however, these fish may be hooked in hundreds. At Selkirk,

formerly one of the outposts of the Hudson Bay Company, is another detachment of the mounted police and a few stores. On the opposite bank of the Yukon, at the mouth of the Pelly, the chimneys of an abandoned fort still are visible.

Below Fort Selkirk there is an absence of the clay bluffs. There are innumerable islands. At some places the hills come down to the water's edge sharp and sheer. At others the shore is lined with rolling prairies, broken at intervals by wide, fertile valleys. The scenery, which is not unlike that of the Inland Passage, is as varied as it is picturesque and interesting. Small settlements and Indian villages are sprinkled along the banks.

A short distance below one of the timbered islands, nestling in a big wide flat at the edge of a valley, lies Dawson, a quiet, orderly town, with a marked absence of gambling houses, dance halls and other adjuncts of a frontier civilisation that distinguished it in the early days of its history. Contrary to the expectation of those who have read romances of the Northern gold fields, Dawson has fine schools, churches, hospitals, libraries, newspapers, a telephone and telegraph service, an electric light plant and a railroad running to the creeks. There are many fine homes, around which splendid flower and vegetable gardens have been cultivated. The town that sprung up in a night has passed through all the stages of life typical to a frontier mining camp, and settled down into a sober, staid community.

The days when thousands of dollars were wagered at a single bet on the faro table, when the egg market was cornered to win a woman's smile, when potatoes were sold at one dollar each and eaten raw with the relish of an apple, when stove pipes were traded on the "ounce-for-half-ounce" basis—an ounce of stove-pipe for half an ounce of gold dust—have passed.

But Dawson never was as lawless as represented. The Northwest Mounted Police, acting in conjunction with an institution known locally as the "Corbett and Fitzsimmons," took care of that. As an eradicator of crime and the criminal element the "Corbett and Fitzsimmons" was brilliantly successful. It consisted of several cross-cut saws and a few thousand heavy logs. Every man who was convicted of disobeying the law was given a saw and introduced to the woodpile. With an iron ball attached to his foot, he was forced to saw wood for ten hours a day, summer or winter, and there were always a few soldiers around to see that he performed his daily stint. In winter, when the thermometer fell to as low as fifty and sixty degrees below zero, prisoners were compelled to saw vigorously in order to keep warm.

The gun-fighting, law-breaking element from Skagway and other coast towns usually took one look at the woodpile and then hurriedly decided to move down the river into American territory. The Canadian authorities kept men stationed at Lake Tagish. Every time an undesirable passed, word would be sent ahead of him to Dawson. On reaching the metropolis of the Klondike, he would be taken to the police headquarters, passing the "Corbett and Fitzsimmons" en route. At the station the unwelcome immigrant would be questioned as to his antecedents. He would take a second look at the woodpile as he left the building. It was unnecessary to urge him to leave. Usually he made a bee line for his boat as fast as he could and proceeded down-stream.

Notorious "bad men," who boasted they had more notches in their guns than there are quills on a porcupine and who bragged of being so "tough" that an axe wouldn't make a dent in them, were so tame in Dawson that they would eat out of the hand. The rhythmical "Corbett and Fitzsimmons" put a fear into their hearts that nothing could eliminate. The

thought of such strenuous labour was really painful to this element.

In 1898 food at Dawson was purchased at exorbitant prices. A man, addicted to *faro*, installed a pie counter in a gambling house. A slice of one of these delicacies, which were filled with dried apples or prunes, cost one dollar. The miners did not need the services of a detective to inform them when the proprietor of the counter was losing at the *faro* game, for on these occasions twelve pieces would be cut from a pie instead of six. This gambling vendor of comestibles later opened a restaurant and when it was discovered that he boiled tallow candles in the soup to give it flavour there were threats of lynching.

There are several good hotels in Dawson now and the traveller can obtain a meal there that compares favourably with the cuisine of the best hotel in any city in the "States."

The city of Dawson was founded by Joseph Ladue, a trader and gold miner who had lived in the country for many years prior to the sensational discovery of gold on the tributaries of the Klondike River that brought 60,000 people from all parts of the world over the mountains and down the Yukon. There were less than one hundred cabins in Dawson when the vanguard of the great *hegira* arrived and in a few days thousands of tents had been pitched on the river bank. Along the water front thousands of boats were wedged together three or four deep. But the Canadian authorities soon brought order out of the chaos.

Dawson's richest placers are now exhausted. The mammoth dredge that bites its way through the banks of streams, tearing down rocks and trees and hoisting thousands of yards of gravel into immense flumes, has replaced the pick and shovel, the sluice box and rocker, and other crude placer mining devices.

Even the Klondike River, which the pioneers considered too deep and too wet to be worked at a profit, is being operated by the gold ships that grind their way up-stream and leave in their trail huge piles of gravel and detritus from which the particles of gold have been extracted. A huge flat on the upper bank of the Klondike River, at its confluence with the Yukon, where the first settlers builded their cabins, has been completely demolished.

The discovery of gold in this region is claimed by George Carmack and Robert D. Henderson. Carmack made an immense amount of money from the claims which he staked on Eldorado and Bonanza creeks, streams to which Henderson claims to have directed him. Henderson received a government reward.

The men who stampeded to Dawson from the lower Yukon country on receipt of news of the strike did their first mining by thawing the frozen ground with fire and hot rocks. The frozen muck above the gravel was amenable to the pick — if that implement were diligently and vigorously applied — but when the frozen gravel was reached, no steel tool could make an impression on it. It was just as hard as solid granite.

It is related that Jack London, the novelist, in company with a spectacular character known as "Swiftwater Bill," purchased a couple of claims on one of the payable creeks. London pecked at the muck on top of the gravel till his hands were blistered and his back ached. Not making much headway, he kindled a fire to thaw the muck. The soil softened for several feet down — more than he could shovel out at one shift. At dark he left his pick and shovel sticking in the soft mud. That night the temperature fell to sixty degrees below zero and when London returned the next morning he found his implements frozen in so solidly that a steam derrick could not have lifted them out. To have started another fire to re-thaw the ground

would have burned the wooden handles from his tools. So London quit the claim and went to Dawson. Soon afterwards he left the country and began writing stirring tales of the North. The claim he forfeited subsequently yielded nearly \$1,000,000. "Swiftwater Bill" made an immense fortune, which fast living and slow horses soon dissipated. Early in 1912, he was in Peru, South America, where it was reported he had discovered the source from which the Incas procured the gold taken from them by Cortez and other Spanish invaders.

While the excitement of the mining boom has passed, there still remain many things worth seeing at Dawson and not the least interesting are the many beautiful gardens and thriving farms adjacent to the city. It probably will come as a surprise to many people in the Eastern states, whose mental picture of the Yukon is a view of ice-crustcd hills and polar bears, to learn that the farms near Dawson grow many tons of vegetables over and above the amount necessary for local consumption.

Trips may be made from the city to the mines on the various creeks either by railroad or stage and back of the town is a winding trail leading to the top of a hill that has an elevation of about 1,800 feet above the river level. The climb is not difficult and the view obtainable is well worth the effort. From the summit the valley of the Yukon can be seen stretching towards the Arctic Circle at Fort Yukon, while to the westward are hundreds of snow-capped spurs that form a part of the mountain chain which reaches almost from the Arctic Ocean to Mexico.

CHAPTER XI

DOWN THE RIVER TO FAIRBANKS

Forty-Mile, the pioneer mining camp of the Upper Yukon—The fighting dogs—Eagle City, at the boundary line—Circle City—Wada's trip into Fort Yukon from the Arctic, and the sad fate of his trousers—Fort Hamlin and Rampart City—The Tanana River and Fairbanks, the metropolis that sorely needs a railroad.

BETWEEN the river banks bordered with timber and gay with wildflowers, a stern-wheel steambot carries passengers down the broad Yukon to a point within the Arctic Circle, thence through the wide delta, near its confluence with the sea and across a short stretch of ocean water to St. Michael. There is much sameness about the scenery, yet it is never uninteresting. When Dawson is left behind, attention turns to the river itself and soon one realises from the rapidly growing volume that it has every right to take rank among the largest streams on the continent. From Lake Bennet to St. Michael is a distance of more than 2,000 miles and it is navigable for light draft vessels to White Horse, where further navigation is impeded by the rapids.

The clean-cut banks, the great river studded with a maze of islands, numberless streams running in from between the rounded or precipitous hills, the primeval forest on every side are calculated to bring delight to those who love Nature unscarred by the despoiling hand of man. Once in a while a moose will be seen swimming through the turbid water and occasionally a black bear is visible on the jutting rocks clumsily fishing for salmon or gnawing at the berries in the woods. Bird and animal life abounds everywhere. On the upper reaches of the river the

voyageur will see many flocks of ducks and as sundown approaches he will obtain occasional glimpses of big Arctic hares playing on the sandbars. In the lower river he will see clouds of wild geese and brant.

Fifty miles below Dawson, a hooting whistle announced the approach of Forty Mile, a small settlement a few miles from the boundary line that separates Yukon Territory from Alaska. The whistle had an amazing effect on the landscape. The banks of the river seemed to quiver with the movement of dogs. They came running from every direction. What appeared like clumps of brush and grass suddenly became animated streaks of dog headed for the river bank. There were every kind and description of canine — great huskies bred from the Mackenzie River timber wolves, malamutes, terriers, great danes, mastiffs, and all the different grades of mongrel that this miscellaneous collection could produce. The multitude of animals seemed imbued with but one desire — there was but one thing worth living for: to reach the river bank before the other dogs.

Contrary to expectation they did not assemble at the point where the gang-plank was laid for the passengers to disembark, but huddled in a tail-wiggling mass at a point opposite the galley, where they gave every possible manifestation of canine delight. They squirmed and wiggled and barked with pleasure. It was good to receive so royal a welcome, even if offered by dumb animals.

Two minutes later the cook threw ashore a barrel of scraps from the table. Instantaneously the seventy or eighty ravenous animals were transformed into a writhing, fighting, biting, snarling mass. Each tried to get its own share of the feast and as much as it could grab of what, on a basis of equity, belonged to others. Bristling hair and flashing teeth were everywhere. They rended and tore at each other like fighting

tigers, one great Dane standing bravely in the centre, while malamutes and huskies darted at him from all sides and snapped their teeth into his flesh. Occasionally he fought back, clamping his strong jaws on his assailants. It was a battle royal. Where there was flesh, they bit at it impartially, but the canine nearest the food came in for the greatest number of attacks.

The malamutes are the quickest in action. Time and again they bounded into the midst of the fray like a flash, gave one rending snap at the enemy and regained the outskirts of the pack before a counter bite could be delivered. The infuriated animals in the centre fought with unbridled savagery against those who attacked them from the outer lines, stopping once in a while to inaugurate hostilities among themselves. Arbitration between the malignant belligerents was out of the question. Amidst yelps of pain and snarls of rage, up and down, the battle waged. Meanwhile the size of the pile of food gradually diminished, but not until the last particle was consumed were hostilities suspended. Then they went their various ways, some to lick their chops in the smug satisfaction of an appetite appeased and others to lick the soreness from the wounds and scars of battle.

Apparently, the logic of the Alaskan dog is that when there is nothing left to fight for, there is no sense in fighting. When the spoils of war are no longer in sight, peace is declared.

With variations the performance was repeated at nearly every stop down the river. The cooks on the vessels make a practice of saving table scraps till a town is reached and the cry of "steamboat" or the blast of a whistle is all that is needed to start every dog within radius of the sound on a wild rush to the river bank.

Forty Mile is the pioneer mining town of the Yukon Valley, gold having been discovered on Bonanza Bar, a tributary

of Forty Mile Creek, in 1887. This stream has its source in Canadian territory, but flows into the Yukon on the American side of the boundary line. When the Klondike gold fields were discovered, the pioneer town temporarily was deserted, but many of the claim owners soon returned to their first love. In 1912 about four hundred men were engaged in mining in this locality, about half on the Canadian side and half in American territory.

The nearer the mouth of the great river is approached the greater is the amount of mud it seems to carry. Between Forty Mile and Eagle City, the current cuts into the soft banks, and allows tons upon tons of earth and gravel to fall with loud splashes into the stream. Some of the banks are thirty and forty feet high and are overgrown with trees and carpets of moss. In places the bank of the river presents the appearance of having been lined with moss and trees growing on horizontal instead of vertical lines. The moss hangs down like a protecting curtain and, until torn out by the jagged roots of floating trees, forms a natural barrier to the further encroachment of the river.

The next stop is made at the boundary line, where Eagle City is situated. Gold was discovered on Mission Creek in 1896, but the output never has been large. It is the end of the Valdez-Eagle telegraph line. Although Eagle City is forty-nine miles below Forty Mile by following the river, the distance in a straight line is only thirteen miles.

Fort Egbert was established at Eagle by the government in 1897 and much of the work of the soldiers during the succeeding two years was in aiding destitute miners, who, after fighting their way up the Copper River Valley, crossed the mountains and reached the Yukon at Eagle or Forty Mile in a weary, tattered and hungry condition.

Many tributaries between Eagle and Circle, the next

stopping point, increase the volume of the Yukon. The main stream winds and twists in every conceivable direction, but gradually works its way through the hills in a northerly direction till Fort Yukon, situated less than a mile north of the Arctic Circle, is reached. Many of the creeks in this region are attracting the attention of dredging and hydraulic engineers. Fine gold was found in some of the gravel banks in 1911 and it is likely that within the next few years big mining plants will be in operation. Should a railroad be built through American territory from the coast to the Yukon, the inland terminal will be somewhere in the vicinity of Circle or Eagle. A shorter route to the interior waterway system, however, is offered by way of Fairbanks, on the Tanana River, one of Yukon's big tributaries, and as quartz mining and other permanent industries are developing more rapidly there than on the Yukon proper, it probably will receive early consideration of construction engineers and capitalists.

Circle City, 190 miles below Eagle by the river route, in 1896-97, was the most populous settlement in Interior Alaska, but when gold was discovered in the Klondike it became depopulated. In the winter of 1897-98, when a partial famine occurred at Dawson, hundreds of miners took the trail over the ice to Circle and remained there until the following spring, when steamboats brought more food into the country. With the exhaustion of the rich placers at Dawson, many of the old-timers returned and resumed operations on the payable streams which they had deserted. One of these creeks is called Mastodon, receiving that name from the fact that discovery of many tons of mastodon ivory and mammoth bones proved conclusively that in some prehistoric age it had been the burial ground for a large number of these extinct mammoths.

Below Circle the river runs in a straight northeasterly direction, but unless one looked at the map one never would sus-

pect it. The stream broadens out and circles around hundreds of islands. It seems as though its course follows every point of the compass. Though flat in stretches, the country is interesting. So numerous are the islands that it is difficult to distinguish the mainland. Occasionally stops are made to replenish the wood that is fed into the maw of the furnaces and here and there is an Indian settlement, with its array of hungry-looking dogs and racks of drying fish.

Indians in this region do not use seine nets but a kind of scoop, which they drag through the water in a rhythmical motion. Their salmon, after being sun-dried, is cached in huge bins built upon poles several feet from the ground, where it is out of the reach of the dogs.

At Fort Yukon, one of the oldest settlements on the river, the summer traveller can read print about the size of that ordinarily used in a newspaper just as easily at midnight as at noon. Here is the land of the Midnight Sun in real earnest. Here it is possible, for several days in June, to see the sun sink to the horizon in the north at midnight, then gradually rise again and travel toward the east.

Fort Yukon never has been of any importance as a mining centre, but for many years has been the trading point for many hunters and trappers from the Porcupine River and the region lying between the Yukon and the Mackenzie River delta. The post was established in 1848 by John MacMurray, an explorer in the employ of the Russian-American Fur Company. The Hudson Bay Company professed to believe this was Canadian territory and that the Yukon emptied into the Arctic Ocean somewhere adjacent to the mouth of the Mackenzie River. There were no Indians here at the time MacMurray crossed from Hudson Bay and built his post, but a tribe was recruited from the outcasts or deserters from different tribes. The supplies were brought overland from York Fac-

tory, on Hudson Bay, four thousand miles distant and four years were consumed in making the trip. When Alaska was transferred to the United States, it was decided to determine astronomically the position of Fort Yukon. The 141st meridian — the dividing line — was found to be where Eagle is now situated, and the Hudson Bay Company was compelled to vacate. This determination of the boundary was made in 1869. The survey of the whole boundary line since has been practically completed.

Between Fort Yukon and Fort Hamlin the Chandalar joins the Yukon from the north. Jujiro Wada, a celebrated musher, in 1907 travelled from the head of the Chandalar River to the Arctic Ocean, along the bleak shore of the Polar Sea to the mouth of the Mackenzie and then ascended that stream to the Rat River. Here he crossed another divide to the headwaters of the Porcupine. He occupied more than a year upon the journey and for the greater part of the time his dogs and himself subsisted on the game that fell to his rifle and shot gun. While travelling along the northern coast, he killed a great many seal and his clothes became saturated with the oil.

Driving up the Mackenzie River to the Porcupine he was afflicted with snow blindness. He saw flocks of ptarmigan, but every time he raised his gun to shoot the refraction of the sun from the snow struck the pupils of his eyes and blinded him. For several days he and his dogs were very short on rations and finally were reduced to a condition where he had to boil the babeesh rawhide in his snowshoes for food. Two of his dogs died and were eaten by the other animals. As the dogs became weaker from semi-starvation they formed the discomforting habit of sniffing enviously at Wada's legs. This gave him an idea. He stripped off his oil-saturated trousers and fed them to the famished brutes. The garments were

chewed till every particle of seal oil had been extracted. Starving and nearly blind Wada drove into the post in his underclothes. He looked up as he reached the store and the pain in his eyes caused the tears to flow copiously. The trader thought Wada was crying and wept in sympathy.

The statement that famished dogs chewed a pair of overalls for the purpose of extracting what nutriment could be found in the seal grease upon them may sound incredible to those unacquainted with the Alaskan malamutes, but those who know the propensities of this canine have not the slightest doubt of its authenticity. It is worth noting in this connection that the natives of St. Lawrence Island and many of the Eskimo tribes, in winter when food is scarce, keep their dogs alive by feeding them ptarmigan and other bird feathers soaked in seal oil.

The Yukon Flats continue till Fort Hamlin, about 125 miles distant, is reached. Here a government school has been established. Through these flats the traveller will see countless thousands of geese and brant which make this region their nesting ground, but there is an absence of other game. Cattle and horses manifest an antipathy to grazing on a field where geese have been feeding, and the absence of moose and caribou from the lower Yukon Flats would indicate that these animals also find the company of web-footed birds objectionable.

Below the flats the river narrows between high ridges and Rampart City, which was founded in 1897 during the Klondike gold stampede, comes into view. The gold here was discovered by two white men and Joe Minook, a half-breed Russian, for whom the principal creek was named. There are approximately 200 miners employed and a big hydraulicking plant is operated.

Many of the Indian women in this region adorn their faces by tattooing their chins with three vertical marks which have

the appearance of having been done in Indian ink. Rex Beach, the famous author of Alaskan stories, lived at this settlement for several months. On his second day in camp, he was endeavouring to identify to another resident a certain squaw from whom he had purchased a salmon.

"You must know her," positively declared Beach. "She's short and dirty and absent-minded and carries her house number marked on her chin, so that she won't forget it. Her number is one hundred and eleven."

Apart from the qualification of absent-mindedness, the description would have answered for ninety-five per cent. of the Indian women in the settlement.

Situated at the confluence of the Tanana and Yukon Rivers is the city of Tanana, or Fort Gibbon, which came into prominence in 1899 through the erection of a military post for the relief of suffering miners who had become confused in the maze of mountains and glaciers at the head of the Copper River and wandered down the Tanana. Primarily, of course, the military was instructed to maintain law and order.

At Tanana, which is the transfer point for freight and passengers to Fairbanks, the tourist will get his first glimpse of a herd of Alaska reindeer, provided the vessel remains a sufficient length of time to allow of a visit to the government station.

Fairbanks is not on the regular itinerary, but Yukon boats usually make connections with those running to the Tanana metropolis. The Tanana River is a broad stream, carrying a vast amount of water—probably nearly half as much as the Yukon. The valley is one of the most fertile in Alaska and, notwithstanding its northern latitude, crops of rye, barley, oats and other cereals have been grown for several years previous to 1911 without a failure.

Eighty miles above the mouth of the Tanana River is the

Manley Hot Spring, a health resort patronised by the residents of the Interior of Alaska. Besides possessing medicinal qualities, the subterranean heat from these springs keeps the ground thawed all through the year and a splendid dairy farm is maintained. Celery, peas, beans, carrots, potatoes, turnips, cabbages, cauliflower and other vegetables are grown in the open and canteloupes, tomatoes and mushrooms are cultivated under glass to supply the guests at the hotel and the miners on the adjacent creeks, while crops of wheat, oats, rye and clover are matured for the horses and cattle. The Hot Springs were discovered in the winter of 1903 by mushers bound for the gold strike at Fairbanks, but it was not until the discovery of gold on What Cheer Bar, Thanksgiving and Otter Creeks, in 1906, that a permanent settlement was established.

About two hundred miles above the Hot Springs is Fairbanks, a well-built city, with good schools, churches, hotels, hospitals, all the branches of fraternal societies and many other modern institutions.

For pastime Fairbanks has a curling club, a basketball team and a baseball league. The baseball umpire calls "play ball" at ten o'clock P. M. on June 21 and the game finishes anywhere from midnight till two o'clock the next morning. Each year a midsummer festival is held. It commences at sunrise, which is equivalent for midnight in the "States" and continues for three or four days. One of the features is an agricultural and dairy product fair at which prizes are awarded for the best exhibits.

Fairbanks has a city council and a school board. But here, as elsewhere in Alaska, many of the statesmen are guided by principles which might be regarded as peculiar in other countries. The councilmen are chosen more for their native sagacity and simple honesty than for their attainments in scholarly oratory. At one meeting of the council, a few years

ago, a franchise was under consideration. On the face, it looked as though it must prove a benefit to the community. It was without a flaw. Almost everybody was in favour of it until a miner who had been elected to the council arose:

"Now that ordinance looks all right," he announced. "It's going to be a good thing for the city, but I happen to know that fellow what's boosting it is an infernal crook. I don't know what's wrong with that law he's trying to put across, but I guess we had better hire a lawyer and try to find out. Anyway, I know that fellow that's boosting it, and he's so crooked that he meets himself every time he turns a corner. So that's the reason I am opposed to it."

The bill was defeated, and investigation proved that the councilman who objected to its passage was right in his estimation of its demerit.

In 1906 a bill passed the national legislature giving Alaskans the right to elect a delegate to Congress. There were many men in the country who had never exercised the privilege of the franchise. Frank Waskey, a well-known miner and prospector, was one of the candidates. On election day a rugged frontiersman leaned wearily on the counter at the polling booth and asked to be instructed in the most approved manner of marking a ballot.

"I've walked sixty miles to vote," he explained. "I'm rather new to this election business, but I want to vote for Waskey and I don't want to make no mistakes about it."

The clerk directed him. He walked into the booth, marked his ballot and deposited it in the box. Then he pulled out his gold poke and untied the string.

"What's the damage?" he asked.

The judge hastened to explain that it was not customary on the part of the government to charge for the privilege of voting.

"Well," he said, surprised, "if I'd have knowed that I

would have made that cook of mine come in and vote for Frank, if I had to drag him by the scruff of the neck."

The Waskey adherent waited around town till the election was over, and had the satisfaction of seeing his choice elected. Incidentally, Waskey made a very capable delegate in Congress, but after spending one winter in Washington—the period of his term—he returned to the north and went off into the wilderness for a few years. When last heard from—June, 1912—he had made a new gold discovery at Good News Bay, near the mouth of the Kuskokwim River.

For miles above and below Fairbanks, the forest on both sides of the river has been denuded of its timber by the miners who burned the wood for steam thawing. Fifty miles beyond Fairbanks lie the great Bonnifield coal measures, the biggest coal seams in Alaska. One of these beds of coal is more than 150 feet thick. It has been estimated by the United States Geological Survey that this coal field contains billions of tons of fuel. It is not of the highest grade, but would do excellent service in the boilers used for steam thawing. Because a short-sighted governmental policy kept miners from using this coal, they were compelled to burn wood, with disastrous results to their pocket books and the forest. Here is a cold country and it would seem the natural, sensible course to follow would be to allow the people who inhabit that region to burn the fuel which Nature in her infinite wisdom placed there. With freight costing as high as six cents the pound, it was obviously out of the question to transport fuel from the United States or Canada and thus the forests were destroyed. The miners had no option in the matter. The need of fuel was imperative. But they were compelled to pay a federal stumpage tax.

If there is any town in the world that is in need of transportation facilities, Fairbanks is that very place. The region has produced more than \$30,000,000 in raw gold and according to

careful estimates made by the United States Geological Survey, more than half of that sum was expended in defraying the transportation charges. A small railroad, the northernmost on the American continent, runs from Chena, at the head of navigation on the Tanana, to Fairbanks and the adjacent gold producing creeks. The material for this road was transported into the country at a cost of approximately six cents the pound, or \$120 a ton. The winter freight rate from Fairbanks to Cordova in 1911 was one dollar the pound. Mail and baggage is carried over the road from Fairbanks to Chitina, a station on the Copper River and Northwestern Railroad.

There are two ways in which the interior transportation problem may be solved. The first is to establish a port of entry at Fairbanks, and allow Canadian ships plying on the Yukon to land freight there, and the second and better plan is to construct a railroad from some point on the coast, preferably Cordova or Seward. The Canadian government established a port of entry at Dawson for the accommodation of American ships operating on the Yukon, and there is no valid reason why the favour should not be reciprocated, especially when it would tend to break up a monopoly and accommodate the American miners at Fairbanks. The railroad from the coast to Fairbanks eventually must be built in order to give the country an outlet to the coast at all seasons of the year.

The Tanana Mines Railroad was projected to the Bonfield coal measures, which it was thought, would be made available to furnish fuel for mining and domestic purposes at Fairbanks, but with the order for the withdrawal of all coal lands in Alaska from entry, that part of the project was abandoned and construction discontinued.

While its population decreased in 1909-10, when gold was found at Iditarod and later at Ruby City, Fairbanks remains one of the most prosperous cities in Alaska. It has before it

a great future in mining and also in agriculture. Many quartz mines are in operation and in contradistinction to the veins in Southeastern Alaska, they carry gold in large quantities. It would be impossible, at this writing, owing to the heavy cost of freight and fuel, to work any but the highest grades and most profitable ores. Half-a-dozen quartz mills are in steady operation. That these plants are small is true, but as soon as the fuel is obtainable from the local fields and transportation facilities are obtained, their capacity will be increased several hundred per cent.

That Fairbanks and the Tanana Valley have a future as an agricultural district has been proven beyond all question. Already a sufficient amount of vegetables for the local markets are grown there. The soil is marvellously productive. From six acres planted in potatoes, one man sold more than \$4,000 worth of tubers. Owing to the persistent activity of Falcon Joslin, president of the local railroad, who exported seed grain from Norway and Russia, many acres of wheat, oats and other cereals have been planted and matured. The size of the "stools" or clusters that grew from one grain were enormous and in 1911 Fairbanks cereal products were awarded several prizes at an agricultural fair held in Minneapolis. Near the head of the Tanana Valley are thousands of acres of wild grasses, growing shoulder high, and a large quantity of this is cut each autumn to feed horses and cattle during the winter. Agriculture, however, like the mining industry, is greatly retarded because of lack of transportation. Thousands of cattle could be wintered in the Fairbanks region, but there is no trail by which they may be driven to the markets of the coast. With the advent of a railroad from the seaboard this difficulty will be eliminated.

CHAPTER XII

THROUGH RIVER DELTA TO THE SEA

The bloody tragedies and crimes that distinguished the early settlement of the Lower Yukon — Old forts along the river and at St. Michael — Nome, where people isolated for eight months, make winter pass pleasantly — Ice floes drifting through Bering Strait — Siberia only seventy-five miles distant — Land of the Eskimo.

THE steamboat, aided by the swift current of the Tanana River, makes a rapid journey over the 275 miles between Fairbanks and the Yukon. Along the sides of the stream a number of camps have been established by prospectors, woodchoppers, fishermen and Indians, and once in a while a native in his birch-bark canoe — a fragile looking craft — is encountered. Here and there below Fairbanks a few farms are visible on the banks and on the islands. The scenery is very similar to that seen on the Yukon for many miles below Dawson, but the water is much clearer.

Below the confluence of the Yukon and Tanana, the speed of the current increases perceptibly, and the run to Kokrines, a fur-trading post and telegraph station, 140 miles distant, is accomplished in a few hours.

Like many other telegraph stations in Alaska, Kokrines has succoured many exhausted and freezing mushers travelling from the Koyukuk, Chandalar and other far-distant diggings. The telegraph stations, in regions where there are no roadhouses, are used by the winter mail carriers. These outposts of the telegraph service more appropriately could be called rescue stations, for they perform the same service for the wayfarer by land that marine life-saving crews perform for the traveller by sea.

120. ALASKA, AN EMPIRE IN THE MAKING

Considerable prospecting has been done in the vicinity of Kokrines, and some low-grade gravels have been uncovered. So far, however, the results have not been such that they are calculated to startle the world.

Between Kokrines and Loudon on the bank of the Yukon, is Ruby City and from here a trail has been built to the diggings, thirty miles distant, where a considerable amount of auriferous gravel has been uncovered. Ruby City became the lure of the prospector in the fall of 1911, when hundreds of men, on receipt of a report of a new strike, stampeded from Fairbanks, Iditarod and other camps. A real estate boom started, and in the excitement that prevailed for a few weeks, lots were sold at fabulous prices. Then the news was disseminated that hole after hole had been sunk to bed rock and no paystreak discovered. A slump in realty values followed. Then gold was found and values increased. At this writing, August, 1912, the country has not been sufficiently prospected to determine whether Ruby City will develop into a permanent community. Alluvial mining is an ephemeral industry at the best, but many of the placer camps in Alaska have developed into fields where the more permanent industry of quartz mining is conducted successfully. It is likely that in this respect, the history of California, Colorado, and other mining states will be repeated in the Northern Territory.

A short distance below Ruby City is Loudon, another reindeer and telegraph station and trading post.

Ever widening and increasing in volume, the Yukon River receives the Koyukuk, another big tributary, which drains a vast country to the northward. This stream is navigable by small river steamers for a distance of more than 500 miles from its confluence with the Yukon. In 1898, many gold hunters, finding Dawson overcrowded, stampeded to the Koyukuk, and established the town of Bettles at the head of river

navigation on that stream. Gold in paying quantities had been found on the Koyukuk as early as 1892, when a number of prospectors began working Frying Pan and other river bars. Because of the inclemency of the weather, the miners named their new settlement Coldfoot. In 1906 many large nuggets were found on Nolan Creek, as much as \$300,000 being extracted from one little "patch" of ground. As a general rule, however, the field was unprofitable. Since that time some good quartz mines have been found and it is probable that the district yet will develop into an active mining centre.

Koyukuk River is said to be inhabited by more mosquitoes to the square foot than any other part of the world, but this probably is an exaggeration, as there are some thickly-infested "mosquito belts" in British Columbia, and one will find quite a large number of these voracious pests in almost any place in Alaska, especially in the woods. Koyukuk was given the laurel for mosquitoes because in 1899, a man was so severely bitten that he succumbed to his injuries, and a prospector a year later, who wrecked his boat and became marooned on one of the many islands in the river, was driven insane by the boring proclivities of these inveterate and industrious stingers.

Nulato, one of the largest Indian settlements on the Yukon, lies a few miles below the Koyukuk. A trading post was founded here by Malakoff, a half-breed Russian, in 1838. Its early history is one of blood and crime. Indians who were driven up the Yukon, or Kwikpak as the river was then known, fearing a repetition of the atrocities perpetrated upon them by the Russians at St. Michael, made desperate efforts to keep the white invaders out of the country. Several times the post was destroyed by fire, and on one occasion the traders were murdered.

The most notable of the "reprisals" enacted by the savages was the cold-blooded murder of Lieutenant Bernard, an Eng-

lish navigator, who passed Nulato and reached the mouth of the Koyukuk. Bernard ascended the river in the hope of finding some trace of the survivors of the Sir John Franklin expedition, whom, it was thought, might have found a route across the range of mountains on the Arctic coast and reached some of the streams flowing toward the Yukon. Bernard's murder never was avenged. Historians give two accounts of the manner of the Englishman's death. The first is as above stated, and the second is that he was killed in a massacre of Russian traders at Nulato.

Alaskan history records that Kerchinikoff, a Russian trader noted for his murderous instincts, also met his death at Nulato. Kerchinikoff had the reputation of having killed enough Indians to fill his grave with skulls and to build a high column of bleached and fleshless craniums for a tombstone. He lived to be a very old man, but from his very youth his ruthless savagery had made his name a terror to the unfortunate Indians. He built forts along the river banks as far as the Russians penetrated, and some of these rude log structures may still be seen at Andreafski, St. Michael and other places.

He never let an insult, real or fancied, to the company of which he was the head in that section, go unpunished, and was the first man to use a cannon against the Indians. It is said that at one time, after the Russian traders at Andreafski had been massacred by the natives, Kerchinikoff placed two cannons at the prow of his river boat, and having no lead, loaded them with chains, nails, scrap iron and other miscellaneous articles. Near Nulato he found the band that had murdered his traders. They laughed derisively when the Russian demanded the surrender of the murderers. As the natives fired a shower of arrows at the vessel Kerchinikoff simultaneously touched off both cannons. A terrific explosion rent the air, and when the smoke cleared, a dozen Indians dead and horribly mutilated,



Photo by Welden.

ON FAIRBANKS TRAIL.—“WHITE SILVER BIRCH AND QUAKING
ASP MINGLE WITH GREY POPLAR AND LARCH AND DARK-
GREEN SPRUCE AND TAMARACK”



HERD OF WALRUS ON THE FLOES OF BERING SEA—THESE BLOATED, BULKY ANIMALS, FOLLOW
THE ICE NORTHWARD INTO THE ARCTIC

were stretched on the beach, while many others, wounded and panic-stricken, fled to the woods. Not another white man was murdered from that day until Kerchinikoff, after a drunken orgy, was stabbed and slashed to death as he lay on the river bank in sight of the graves of the many Indians he had so cruelly slain.

With Kerchinikoff out of the way, the Indians again became hostile, and wreaked a bloody vengeance for the horrible cruelties that had been inflicted upon them from time to time by their Russian conquerors.

There are now a few houses and stores at Nulato, a telegraph station, and one of the largest reindeer herds in Alaska. It is the summer transfer point for the light-draught vessels plying on the Koyukuk River.

This section of the Yukon Valley, except for a few isolated hills, is very flat, and there is a marked difference in the types of Indians found in this region. Their higher cheek-bones give them a resemblance to the Eskimos. Instead of the dug-out or birch-bark canoe, they use the kyak and bidarkie, craft which are made by stretching walrus skin over a few light timbers. Here also, one will see the dead buried in coffins placed on stilts or in the trees. Some of the natives wear coats made from the skins of geese and other birds that fly over the river in countless thousands.

At Kaltag, a few miles below Nulato, there is a trading post, a government telegraph station, and a wireless station, which was erected by private enterprise as a means of maintaining communication with the Iditarod gold fields. From Kaltag, in winter, a trail leads overland to Unalaklik, eighty miles distant. To reach the same point by following the river, the distance is more than 600 miles. The Kaltag cut-off shortens the route to Nome by about 500 miles and this trail is used by mail carriers and other travellers during the winter.

Bending to the southward, the Yukon, with a few high hills on the left and flat ground as far as the eye can see on the right, soon reaches Shageluk Slough, a lake-like sheet of water which leads to the Iditarod and Innoko diggings. The Innoko River, one of the most sluggish and crooked streams in Alaska, seeps into the head of Shageluk Slough. The contiguous country has few distinguishing features and the stream is so sinuous and its water so slow of movement, that a party of prospectors, after camping for the night, started their craft down-stream one morning, and did not discover their mistake till several hours later when they found one of their former camping places.

At the head of Innoko River are the alluvial diggings, where a few men take out about \$300,000 annually in gold dust. One of the branches of the Innoko is the Iditarod River. From the Yukon to Dykeman, the head of navigation on the Iditarod, is about 350 miles, and from there to the diggings the distance is about 75 miles. Iditarod, discovered late in 1909, yielded about \$6,000,000 in the first two years of its existence, one claim on Flat Creek, producing an average of \$40,000 per week during the open season. In 1912 a number of the claims were bonded to a big dredging corporation, and a gold ship was floated down the river from Dawson to operate the ground.

With the exception of gambling, Iditarod possesses all the elements of a frontier camp, but the installation of wireless telegraphy, a telephone system and other conveniences rapidly are bringing it within the realm of civilisation. Iditarod was supposed to be the last frontier of Alaska, but new discoveries on the headwaters of the Kuskokwim River about 75 miles distant, threaten to deprive it of this honour. Being off the regular line of travel and having an abundance of mosquitoes and no scenic attractiveness worth mentioning, it is not likely to become of interest to the tourist.

In the winter of 1911-12 the residents of Iditarod ran short of meat. The last of the cold-storage beef was eaten at Thanksgiving, but the miners manifested their independence of the fresh food trust by crossing the Kuskokwim divide and bringing back a number of reindeer which they had purchased from the missions on that stream. With the exception of a few flocks of ptarmigan there is very little game in this locality.

Owing to the vagaries of the Japan Current, the weather at Iditarod in 1912 was very mild and sluicing was continued long after navigation was closed on the Yukon. One ton of gold dust and bullion, worth approximately \$1,100,000, was hauled across the trail to Seward by dog team and shipped to the mints. The scene was laid for a dramatic highway robbery, but, apart from one of the sleds tumbling over a cliff and nearly falling into the sea near Knik Arm, the mushers found the journey uneventful.

Gold was discovered on the bars of the Innoko River as early as 1886, about which time a number of miners worked the gravel with rockers. The particles of yellow metal which they extracted from the sand were extremely fine and bore every evidence of having been carried a great distance, but none of the prospectors conceived the idea of penetrating to the headwaters of the stream or its tributaries, where, in the natural process of erosion and deposition, the greater quantity of gold would be lodged. Many years ago a Russian expedition ascended the Innoko River to its head and crossed to the Kuskokwim Valley. The members of this party doubtless traversed Gaines Creek, but they made no mention of having found any trace of mineral.

Holy Cross Mission, where a Græco-Russian church was established about 1849 and later abandoned, is the next point of interest to break the Yukon's monotony of wooded

islands and broad waterways. Eight miles below is Russian Mission, where a Græco-Russian church has been maintained for many years. It is not unlike the other churches of this denomination in Alaska, excepting that it has little of the wealth of fine paintings and metal ornamentation. A band of Indians, many of whom bear traces of Russian ancestry, are cared for at the mission. The United States maintains schools at both Holy Cross and Russian Mission.

Through the same interminable scenery of wooded islands, surrounded by winding sloughs of muddy water, with a slightly undulating country to the north, the vessel winds its crooked way along till Andreafsky is reached. This settlement lies in one of the many curves or bays of the Yukon Delta, and beyond the facts that it is the place where river vessels are laid up in the ice for the winter and that a government reindeer herd is maintained, there is nothing particularly interesting about it. A trading post was established here in 1850, and the number of atrocious crimes against the natives which distinguished Russia's occupation of all parts of the territory, are said by historians to have been repeated here.

A short distance from Andreafsky the Yukon splits into a labyrinth of different outlets, which for untold ages have poured their burden of mud and silt into Bering Sea, causing the coast-line to extend closer and closer to Siberia. The distance from the confluence of the northerly branch of the Yukon with the sea, to the mouth of the most southerly branch is more than sixty miles. The country surrounding the Yukon delta is flatter than a badly-told story. There is no doubt that this land has been built up from the desposition of soil make by the Yukon during many centuries. For æons this great river has been depositing mud and sediment into the waters of the eastern shores of Bering Sea, where, because of lack of current, it sinks to the bottom and builds up shoals and

sandbars. How long Nature has thus been employed in this land-extending process no man can tell, but there can be no doubt that, as the centuries roll by, the shores of Alaska slowly will proceed eastward, and—unless in the meantime the course of the Yukon is changed—when a few million years have elapsed, St. Lawrence Island in Bering Sea will become a part of the mainland of Alaska. This steady encroachment of the American coast need not, however, interfere with the plans of those visionaries who think it possible to connect America and Asia by a railroad running through a tunnel under Bering Sea from Cape Prince of Wales, Alaska, to East Cape, Siberia. The distance between the two countries is less than eighty miles and the Diomed Islands in the centre of Bering Strait can be utilised for a sub-station.

Man is never so well satisfied as when engaged in “improving upon Nature.” The propensity is inherent in every healthy human being. It finds its first manifestation in childhood. When a youngster sees a narrow stream his first impulse is to hunt for a board with which to span it so that he may have an enjoyable half-hour trotting from one side to the other. Grown to manhood the predilection is intensified. When a man finds two sheets of water separated by a narrow strip of land his hands begin to itch for a shovel with which to connect them by a canal. When he finds two large areas of land separated by a narrow strip of water, he never is satisfied till he sees somebody bringing them together by bridge or subway tunnel. It is, therefore, not improbable that at some time in the not-too-remote future, engineers and financiers will join forces in the construction of a tunnel under Bering Straits, and with the aid of a few hundred miles of railroad in Alaska and Siberia, make it possible to ride from New York to Paris on wheels. The idea is one that appeals to the imagination. One of the great obstacles in the way of its con-

summation, however, likely will be found in the heavy overburden on the sea floor. The bottom of Bering Strait, in places, is covered with 142 fathoms of water, and the tunnel will require a strong roof to support it. Engineers, however, revel in obstacles of this kind. The battleship *Maine* was exposed on the bottom of the sea by means of a coffer dam, which nobody except the engineers thought could resist the pressure of the sea against it.

"A subway tunnel was built under East River," these visionaries say, "then why not under Bering Straits?"

Through tortuous, twisting channels of the North branch of the Yukon to the wireless station at the mouth of the river is but a few hours' run. The river banks are composed of alluvial deposits, covered with clumps of willows, and here and there a lone, stunted spruce tree. The stream is shallow and its few navigable channels constantly change. The wake of the boat on striking the shore stirs up the mud and washes back in a wave of slimy ooze. However, when the last point is rounded, Bering Sea is in sight, and the river journey practically has been completed.

St. Michael, lying on an island a few miles from the mouth of the river, is reached through a channel between the island and mainland known as St. Michael Slough, a shallow strip of water upon which considerable dredging has been done by the government. The distance from White Horse to St. Michael is more than 2,000 miles.

St. Michael is a small settlement comprising a number of warehouses, a shipyard, a military post, a Russian church and a few stores. Excepting at such times as steamers are lying at the wharf, it is a dismal-looking place. One of the sights of the settlement is an old Russian fort near the Alaska Commercial Company's hotel. It bears the marks of many bullets, but a majority of the missiles were lodged there from

rifles and revolvers carried by the adventurers bound for the Klondike in the celebrated gold rush, and who used the fort on hilarious occasions for target practice.

St. Michael was founded in 1833 by Michael Tebenkoff, an employé of the Russian-American Company, and originally was named Michaeloffsky Redoubt. The site was chosen because of the excellent defence it offered against the Indians of the Yukon and the Interior. There is not a stick of growing timber on the island, but the inhabitants are furnished firewood by logs which, carried down the Yukon in flood, drift up on the beach. The old Russian buildings are made of logs that were rafted down the river or hauled on sledges from the Interior. Some of the timber used in the Russian buildings must have been brought from Sitka or Siberia, as there is no lumber of that particular kind in the valleys of the Yukon or Kuskokwim Rivers.

The distance by river from Dawson to St. Michael is 1,600 miles, if the shortest channels are followed. The distance from St. Michael to Seattle is from 2,400 to 2,800 miles, according to the course steered. St. Michael is the transfer point for vessels plying on the Yukon. Being a military reservation, no liquor is sold and the various commercial companies there operating do business by permission of the U. S. War Department.

One hundred and fifty miles across Norton Sound from St. Michael lies Nome, the largest town in Northwestern Alaska, a distributing point for all the mining fields on Seward Peninsula, and a trading station for hundreds of whalers, walrus hunters and fur dealers, all of whom ply their vocation on the Siberian coast, along the shores of Alaska as far North as Point Barrow, and along the barren lands edging the Polar Sea as far East as the mouth of the Mackenzie River.

Viewed from the open sea, Nome is not an inviting place.

Except for a low, rounded, sombre-looking range of hills that rise brokenly in the background, the country is flat and the absence of trees along the shore-line make a bleak and inhospitable picture, that in some way conveys an impression of loneliness and desolation.

On days when the Arctic sun is shining — which are not of such frequent occurrence as to become monotonous — the land and sea-scape presents one of the prettiest views imaginable. The water is the colour of lilac and little purling waves lovingly lave the auriferous, ruby-coloured sand on the beach. Here and there a white speck of a sailboat is seen, and schooners, tugs and steamships dot the roadstead. The tundra plain on the shore is brown and green, and the air is filled with summer heat. Pretty wild-flowers adorn the Arctic moor, and ducks and snipe can be flushed from sequestered pools and lakes, while ptarmigan lead their young to hide in the grass-grown meadows.

But sometimes, almost with the suddenness of a curtain dropping in a theatre, the scene changes. Black lowering clouds obscure the sun, furious winds lash the sea and great, white-capped waves crash on the beach, smashing boats and sweeping it clear of merchandise, coal or what-not that may be piled there. The thunder of the surf can be heard for miles. The ships in the roadstead drop their anchors and for a while try to ride out the storm, but when their kedges commence to drag they scud for safety in the lee of Sledge Island. Woe betide the captain and crew of the sailing vessel who has anchored his vessel too close to shore. Without sufficient sea room to make a tack against the wind, his vessel almost assuredly will pile its bulk on the beach to be smashed to smithereens by the surf. Sometimes the tempest blows from sullen skies for two or three consecutive days on which occasions the water smashes against the bulkheads and buildings that line the shore and de-

molishes the gold-saving devices that from time to time are installed on the beach.

In some places back of Nome, and at an elevation higher than that upon which the city is built, driftwood in large quantities has been found, clearly indicating that at some comparatively recent date big waves must have swept far past where Nome now stands. Should such a storm occur again, it certainly would blot the city out of existence. Native tradition says that less than one hundred years ago, giant seas were swept inland by the wind, causing much loss of Eskimo life and destruction of igloos.

Nome is open to navigation from about May 15 till November 1. For the balance of the year the sea is covered with solid ice, and the residents are cut off from the outside world, which can be reached only after a long and dangerous trip over the frozen trail to Valdez, Cordova, or Seward, has been accomplished.

In the autumn, generally about October 25, Bering Sea begins to take on a covering of slush ice. A month or six weeks later the Arctic ice pack, a solid field from four to forty feet in thickness and hundreds of square miles in extent, floats down from the North and effectually covers the sea. In the spring these immense fields of ice float gently out to sea and are carried Northward again by the currents. As the field passes through Bering Strait, a narrow strip of water between the easternmost point of America and the westernmost point of Asia, it forms a magnificent spectacle. The ice pack has all the irresistible power of a slowly moving glacier many times multiplied. Instead of moving two or three feet a day like a glacier, the sea ice pack passes at a rate of from two to three miles an hour. Great bergs fighting their way through the narrow channel, crash and grind against each other like colossal giants clashing on a football field. The creaking, crushing

noise can be heard for many miles. The power of these immense fields is so great that one often wonders they do not push the Diomed Islands, two small splotches of rock in the centre of the straits, off the map.

A few years ago the ice moved during the winter and cut off a wharf as though the piles had been so many toothpicks. At a point six miles above Nome it pushed big bergs far up on the tundra, crushing a few cabins to splinters. A similar occurrence was recorded at Bonanza Slough, a point about twenty miles east of Nome.

It has been said that there are but two seasons at Nome, July and winter. But the seasons should be divided into four months of work and eight months of play. The natural inference would be that the 2,500 to 3,000 people who remain in Nome after the last vessel has left for the South, would experience a monotonous, desolate and generally lonesome time. Such an impression is as far as possible from the true condition of affairs. Knowing they will be isolated for the ensuing eight months and, with little work to do, they plan for a season of enjoyment and social gaiety. There are club meetings, dancing parties and musical concerts by the score. The Eagle and Arctic Brotherhood halls are well equipped for these purposes and, with the exception of the three days when the big dog race is in progress, there is scarcely a night from the time the last boat leaves till the first vessel arrives in the following spring, that some form of amusement is not provided. These entertainments are not by any means of the crude character that would be expected. The women are just as well gowned and the men are just as carefully groomed as though they were in attendance at an inaugural ball at the National capital. With the exception of the dog race, the same conditions prevail at Fairbanks, Dawson and other interior settlements in the great North country. All of these towns have

their women's clubs, their fraternal societies and various social organisations.

Many forms of open-air amusement and recreation are furnished, the principal ones being ski jumping, snow shoeing, tobogganing, hunting and dog and reindeer racing. Many of the business men form parties and go caribou and polar bear hunting. The big day of the year at Nome, however, is the one in the spring when a cloud of smoke is seen on the horizon. The cry of "Steamboat!" whether it be midnight or noon, is enough to bring every one out. The whistles screech, bells ring out, and the beach soon is lined with people, for the first boat will soon be in, the season of isolation ended and another busy summer commenced.

The arrival of the first steamship from the outside means a replenishment of the larder in fresh vegetables, fruit, eggs and the delicacies of which there may have been a shortage through the winter. Nome loses its air of gaiety and sociability. Everybody becomes imbued with a desire to hustle, for in a little more than one hundred days the sunshine at midnight will have come and gone, the days will be shortened and another season of isolation closing in upon them. Water is turned into ditches and the piles of gravel, which have been taken out of the frozen ground, by thawing machines, are shovelled into sluice boxes where their harvest of glinting metal is extracted. The boilers of the dredging machines are fired up, the wheels of industry grind industriously, and this is the condition in which the tourist will find Nome on his arrival from St. Michael.

On the busy main street unkempt and unwashed Eskimos will be met peddling their pieces of ivory and jade. In the stores will be seen the stock of furs that have just come from Siberia or from some other point on the Arctic coast. Prospectors will be seen carrying their packs across the hills, and

the miners will be conveying their gold dust to the banks for shipment to the outside. Nome in summer is one of the busiest places in the universe.

Trips may be made to Anvil Creek and other near-by auriferous streams, where big hydraulic plants are at work. Down the coast forty miles is Solomon River where dredges are tearing the gravel from the river floor and robbing it of its gold. More primitive forms of mining will be seen in the Kougarok and Casa-de-Pago districts, both of which are accessible. If the health is run down, rejuvenation can be found in the waters of the Kruzgamapa hot springs, sixty miles distant, where mushrooms, celery and many other vegetables are grown almost in the shadow of the Arctic circle. There are many picturesque journeys, one of them being to climb to the top of Anvil Mountain, which is not difficult of ascent and offers a splendid view of the surrounding country.

Should a trip to the coast of Siberia be thought desirable, it is probable that accommodations can be secured on one of the schooners or other vessels engaged in that trade. It is only a few days' journey, but — except for tribes of ragged, dirty Indians, the descendants of the war-like Chuckchees, a few reindeer herds and a barren, timberless, desolate-looking coast line — there is little that is worth the seeing. The Siberian coast is very similar in appearance to the coast of Northern Alaska, a vista of bare, open plains and snow-capped mountains. Provided there is no haze and the atmosphere conditions are otherwise favourable, the Siberian coast may be seen from Cape Prince of Wales, Alaska, with a strong glass. The distance between the two countries is about 75 miles. Cape Prince of Wales, by the way, is 380 miles further to the westward than Honolulu.

There are three railroads on the Seward Peninsula but they do not operate steadily. Here as elsewhere in Alaska can be

felt the obstacle to progress that is found in the lack of fuel. Coal brought to Nome from Canada costs from \$17 to \$23 the ton, and there is not a railroad anywhere in the United States that could pay those prices for fuel and operate at a profit. The Seward Peninsula Railroad runs from Nome to Lane's Landing, or Shelton, in the Kougarok district, a distance of eighty miles. It has water competition and does not carry a vast amount of freight. In 1911 the government taxes against it, which had not been collected for a year or two past, were a greater amount than the total gross earnings of the road. Another railroad runs from the mouth of Solomon River to the Casa-de-Pago district, but apart from hauling coal for the dredging machines and a few miners' supplies, it does little business. It is in the hands of a receiver. The heavy cost of operation—in other words lack of fuel—brought about its downfall. The third railroad runs from Council City to Ophir Creek, a distance of seven miles. It is owned by the Wild Goose Mining and Trading Company and it is largely used, when used at all, in hauling the company's supplies and machinery. There is considerable timber on the Neukluk and Fish Rivers, adjacent to Council City, and in the locomotives on this road wood is burned for fuel.

Although gold was found in the vicinity of Nome, on the Neukluk River, eighty miles distant to be exact, as early as 1867 by some of the members of the Western Union Telegraph Expedition, it was not discovered in payable quantities until the fall of 1898, when Jafet Lindeberg, Erik Lindblom and John Brynteson uncovered a rich paystreak on Anvil Creek, a stream which empties into Snake River, about three miles from where the town is situated. The pioneers formed the Pioneer Mining Company and staked claims on Anvil and several other creeks. The following spring, 1899, the news of the discovery percolated over the country to Dawson.

Thousands of disappointed Klondikers who were returning down the Yukon en route to the United States, stopped off at Nome, and another swarm of prospectors from the Kotzebue Sound country, ragged, starving, weary and disappointed, also made Nome their Mecca.

In the meantime gold was found in fine, flaky particles on the beach. This was "No man's land." A strip along the shore front between high tide mark and the sea, had been reserved from location as mining ground by the government for wharfage purposes. Mining claims could not be located, but there was no provision in the law to prevent any one from extracting the gold. A miners' meeting was held and by mutual consent it was agreed that each man should be entitled to as much ground as he could reach with his shovel from the edge of the hole in which he was working.

Then trouble arose. Who could define the high tide mark? Those who had located claims on the tundra declared it extended down to the sea. Those who were working on the beach contended it extended to the edge of the tundra. Fights and shooting matches between the claim owners and the beach miners were frequent. Finally the military arrived. The claim owners caused arrests to be made, but Lieutenant Craigie, in charge of the troops, insisted that the claim owners put up the amount necessary for the maintenance of the prisoners. Then, instead of arresting a few men, he gathered in the beach workers by hundreds. These men had to be fed and lodged, and the claim owners decided the cost was greater than the prize for which they were contending, and ordered the discharge of the detained free-for-all miners.

Some of the new arrivals scattered over the hills in search of new fields, while others set up rockers and extracted gold from the beach sands. In a few weeks saloon keepers and gambling house proprietors arrived and the place took on all

the improvements that distinguish the frontier mining camp. The beach miners made from \$10 to \$100 per day and many of them left for the South in the fall. Scattering through all parts of the United States and each carrying sacks containing from a few hundreds to a few thousands of dollars in gold dust, it was but natural that the new Eldorado should be invested with a great deal of interest, especially as it was impossible to reach the field till the following spring.

When the sea was clear of ice in 1900, approximately sixty vessels of every kind and description, all loaded with fortune hunters, steamed and sailed into the roadstead. Many of the new arrivals expected they could find the gold nuggets simply by scratching over the ground with a stick. The gold area of the beach sand soon was exhausted by the crowd and many returned to civilisation deeply disappointed.

With the arrival of the swarm of miners, there also arrived authorities to maintain law and order in the camp. Instead, they conspired to steal the gold mines from those who had discovered them — or at least to steal the proceeds thereof. How bloodshed was averted in those strenuous days is a marvel, but the cooler heads prevailed, with the result that a great many federal officials, including judges, district attorneys and other court officials were sent to prison. In the decision handed down by the Circuit Court of Appeals at San Francisco where the defendants were sentenced, one of the judges characterised the proceedings of the court at Nome as "one of the most villainous and outrageous conspiracies in the history of jurisprudence."

Among the invading crowd were many who were totally unfitted physically and mentally to combat the rigorous conditions of an Arctic country. Many fell victims to typhoid, pneumonia and other diseases. Many in destitute circumstances were transported on a revenue cutter, at government

expense, to a more salubrious and less strenuous environment.

Several millions of dollars in gold were taken out of the Nome fields the first year and many enterprises in which the investment of capital was needed were inaugurated, but the insecurity of title created by corrupt officials prevented the promoters from inducing anybody to invest.

The following year many new fields were discovered. The Kougarak country to the Northward and Solomon River to the Eastward, began to yield their precious burden, and several creeks in the vicinity of Council City, eighty miles distant from Nome, which had been staked in 1898, also became productive.

Then a stampede started to Kotzebue Sound. The rush was created by James Blankenship, who claimed he saw the ghost of an Indian at the prow of his boat directing him as to the best way to travel. Blankenship may or may not have seen this Indian spirit—most people believe that he did not—but the fact is that he put out into Bering Sea in an open boat, sailed through Bering Strait into Kotzebue Sound and found extremely rich gravel on Candle Creek, a stream which had been crossed by many prospectors two or three years previously.

Since that time Candle Creek and other streams in that locality have produced an aggregate of between \$600,000 and \$1,000,000 annually in gold dust. Coal was found a few miles distant from Candle Creek, and notwithstanding the proclamation that all coal lands in Alaska are withdrawn from entry, the Candle Creek miners, in 1912, were still mining the fuel. It is a poor grade of lignite, but sufficient for their purposes.

The Nome population gradually decreased as the placers were exhausted, but the industry received a new lease of life in 1905, when an ancient beach deposit richly impregnated

with gold was discovered by J. C. Brown at the base of Anvil Mountain. This ancient marine deposit, the elevation of which was sixty-seven feet above the present sea-level, follows the contour of the present beach-line. It yielded several million dollars. Practically all the rich deposits now have been worked out, and the lower grade gravels are being worked by dredges and other labour-saving devices. Already sufficient ground has been proved to keep these machines in operation for thirty years, and it is highly probable that some good quartz veins will be developed.

Ships leave Nome for Seattle every eight or ten days, and connection is made with Yukon River steamers. If the tourist desires to spend a few days in Nome, much of interest, apart from the mining industry will be found to attract attention. Fishing is obtainable in Nome River and other watercourses, and a visit to the Eskimo village on the sandspit, near the mouth of Snake River, usually is worth the trouble involved.

The Eskimos are a jolly, fun-loving and industrious people. Their environment is a rigorous one, and this condition naturally has engendered the desire to work. They have a distinct resemblance to the Japanese, in feature as well as characteristics, and assuming that primitive man in his wanderings across the earth followed the lines of least resistance, it is not difficult to guess that they might easily have crossed Bering Strait on the ice or in skin boats, just as the Siberian natives do to-day. During the summer natives from Diomed Islands, Cape Prince of Wales and Siberia, congregate at Nome to do their trading. These events usually are celebrated by the playing of tom-toms and native dances.

Although the coast line of Alaska extends a good many thousands of miles beyond Nome, none of the passenger steamships run in that direction. Nome is the end of the journey for the tourist. The return to the "States" can be made

either by ascending the Yukon River or by taking a steamship bound for Seattle. The latter journey occupies about ten days, the former about thirty.

A journey to any part of Alaska acts as a tonic to tired nerves and enervated systems. The great country has much that is unique and interesting to offer to the traveller, the pleasure seeker, the home-builder and the investor. The glory of the North is dawning; its infinite wonders are gradually unfolding.

The National Monetary Commission recently estimated the annual expenditures of Americans who visit Europe at \$200,000,000. The editor of the *London Statist* places the figure at \$170,000,000. Some New York bankers in a joint discussion with French financiers placed it at nearly \$400,000,000. There is abundant evidence that the sum expended in European travel is between \$200,000,000 and \$400,000,000 per annum. In September, 1912, the Associated Press correspondent at London filed a news despatch stating that the number of people preparing to return to America after spending the summer in Europe was more than thirty thousand.

If our own country were better known much of this economic waste would be avoided. This is an era of conservation and our financial as well as our natural resources should be conserved. We have mountains, glaciers, rivers, and other natural attractions which by far surpass anything to be seen in Europe and it should be remembered that each dollar diverted from European travel into the United States assists in giving the American traveller better facilities and accommodations and redounds to the prosperity of the nation as a whole.

CHAPTER XIII

THE STARTING POINT

Starting point for Alaska has many attractions for tourists—Points of interest and picturesque beauty—Its Golden Potlatch, the festival with which the discovery of gold in Alaska is celebrated—Mountain climbing, motoring, boating and fishing trips—Energetic people build up wonderful city in past ten years.

THE voyager, having completed his tour of Alaska, now returns to Seattle, known as the "City of Parks and Playgrounds," the starting and concluding point for practically all vessels plying in Alaska waters. Located on the shores of Elliott Bay, an arm of Puget Sound, 125 miles from the open ocean, Seattle has become the American port of a number of principal steamship lines operating upon the Pacific Ocean and the home port of some of the greatest freight carriers in the world.

The Alaskan tourist would do well to plan his trip so that he will arrive in Seattle a few days before the sailing date of his Northward journey, for there are many things worth seeing in and around this thriving Western metropolis, which, in ten years leaped from a city of 80,000 to one of 237,000 people, who are establishing new industries, acquiring new railroads, new steamship lines, and who, with hydraulic giants, are washing away the hills that impede the erection of new sky scrapers. A 42-story "cloud-tickler" is in course of construction and plans are being drawn for a second one as this is written.

The West, so far as the Pacific Coast cities are concerned, is no longer "wild and woolly." The day of the gun-fighter, the bad man, has passed. The gambling dive and the dance

hall no longer flourish. The luxuries of the "effete East" long since have found their way into the Western cities. The tourist will find in Seattle every luxury and every evidence of refinement and culture that can be found in the Eastern cities, with many new and original ideas along these lines that have been added by the Westerners.

Seattle is a city of optimistic enthusiasm, and if the Eastern tourist desires to see this emotion manifested at its most riotous point, he should time his arrival for Potlatch week, about the middle of July. The word "Potlatch" was taken from the Chinook jargon, invented by the factors of the Hudson Bay Company as a means of universal communication between the whites and natives. Translated the word represents "free gift," "a big feast at which presents are given away by the tyee, or chief," "cause for merriment and rejoicing," "a season of thanksgiving." The Seattle Potlatch was evolved for the purpose of appropriately celebrating the arrival of the steamship *Portland* with the first cargo of treasure from the Northern gold fields, on July 17, 1897, an event from which Seattle's extraordinary prosperity and development was dated.

The Potlatch carnival lasts one week. It costs the people of Seattle approximately \$500,000, but as very little of this money leaves the city, and as it is a big advertisement, nobody seems to mind the expense. The spirit that created the Potlatch is the same public spirit that caused Seattle to outstrip its neighbours in the development of new industries. Approximately \$100,000 is placed in the hands of a committee, whose duty it is to provide bands, aeroplanes, aviators, and a thousand other forms of public entertainment. The balance of the money is expended in decorations, prizes for motor-boat races, athletic contests, floats for the various parades and in many other ways. Countless flags and thousands of yards of bunting are used in decorations.

Travellers from distant parts flock to the hotels, and men and women mingle in gay Bohemian life in the cafés and theatres; sailor-men from distant ports, lumberjacks from the tall fir woods, fishermen and city men, business men and bankers, country men from the fruit-farms and sage-brush deserts, prospectors from the far North, and visitors from the far South, unite in making the event a happy one.

Every form of pageant known to man, from animated totem poles to beautiful floral displays are features of the event. In 1912 nearly \$50,000 was expended in flowers used in decorating automobiles and other vehicles which took part in one of the many parades.

The Portland Rose Festival is scheduled to take place about four weeks before the Potlatch, and after that comes the Montamara Festo at Tacoma. Other fairs and carnivals are held at various cities in the Northwestern states throughout the summer.

Coming over the Great Northern Railway the traveller will have the pleasure of passing through the Glacier National Park and the magnificent Cascade Mountains. He will find the eastern portion of the State of Washington, which a few years ago was a barren desert, stained with the golden yellow of ripening wheat, not growing in occasional patches, but in areas miles in extent. On the middle levels he will find the deep green of alfalfa, tinged with the purple of its blossoms, and still lower in the valleys he will find the thriving vegetable gardens. But the crowning feature of the eastern valleys, its richest possession and the guarantee of its greatest future, will be found in its orchards filled with thrifty, vigorous trees, trimmed and planted in perfect symmetry, and their limbs covered with white and pink blossoms or bowed under burdens of fruit. The orchards of Eastern Washington present a spectacle that always will be a pleasant memory.

The beauties and wonders of the Puget Sound country are manifold. Seattle, tempered by the Japan Current, has one of the most equable climates in the world. There is little, if any, snowfall except in the mountains, and zero weather is unrecorded. The annual temperature is 51.4 degrees, ranging from 40.6 in January to 64.7 degrees in August. The average high temperature is 74 degrees in July and 70 degrees in August; the average low temperature is 43 degrees in December and 38 in January.

The climatic conditions, it is asserted by medical authorities, are responsible for the remarkable healthfulness of Western Washington. The last census showed that the death rate in Seattle is 8.53 per thousand, said to be lower than any other large city in the United States. The nights are cool and invigourating, insuring restful sleep; malaria and kindred diseases are practically unknown. Cedar River water, soft and pure, and piped to the city by gravity from beneath a glacier twenty miles distant, is owned by the city. The plant has a daily capacity of 65,000,000 gallons, while the reservoirs and stand pipes have a capacity of 272,000,000 gallons. The average daily consumption is 35,000,000 gallons. The city also owns a lighting plant and sells its surplus current to consumers. Seattleites claim theirs is the best lighted city in the world—and it looks it. It uses more electricity for street lighting than any other city in America.

Seattle has thirty-seven improved public parks, twenty playgrounds and a municipal bathing beach. During the summer months the bands which give concerts at these resorts are paid by the city. Thirty miles of scenic boulevard within the city are open to traffic. The park board has under its jurisdiction 1,688 acres and is engaged in constructing a boulevard system fifty miles in length following the lakes and Puget Sound, reaching numerous sightly elevations, and practically encircling



Photo by Dobbs.

PARTY OF WALRUS HUNTERS HAULING THE KILL ON TO ICE FLOES OF BERING SEA. THESE ANIMALS BAND THEMSELVES TOGETHER IN HERDS OF THOUSANDS



PETE LARSEN, KADIAK HUNTER AND GUIDE

the city. Unlike most cities the streets of Seattle are very wide and traffic rarely becomes congested.

Rolling back from the shores of Puget Sound to the beaches of Lake Washington is a series of hills, from the summits of which the snow-capped peaks of the Cascade range on the east and the Olympic Mountains on the west, offer an ever changing, ever wonderful panorama of scenic grandeur. On the hills the city of Seattle is built. The famous Seattle re-grades have been completed, and any part of the city can be reached by slow and easy ascent. The hills, washed away by hydraulic power, filled up the tide-flats and converted these waste places into splendid factory sites.

Seattle is practically bounded by three lakes, Green, Union and Washington, the latter a beautiful body of water fringed with trees, thirty miles in length and varying in width from one to five or six miles. An automobile boulevard, designed to skirt this sheet of water is now under construction. The thoroughfare runs through wooded ravines along the crest of the highlands, at times giving a clear, sweeping view of the lake and Mount Ranier, 14,525 feet. The towering peaks of the Cascade ranges, the Olympic Mountains, Mounts Baker and St. Helens and the higher peaks of the coast ranges are nearly always within the range of vision.

Lake Washington, which is to be connected with Puget Sound by a canal now in course of construction through Lake Union, furnishes one of the finest fresh-water resorts on the western coast. Incidentally, an idea of the climate can be gained from the fact that frequently motor-boat races are held on Lake Washington in January. A Seattleite once truthfully said that Lake Washington never has been covered with enough ice to make a cocktail. Roses bloom and the grass is green the year around.

Beaches and salt water resorts are to be found everywhere.

and the country abounds in good fishing places. King County annually spends a large amount in the cultivation of trout, black bass, and other game fishes, turning millions of fry into the streams and lakes every year from the hatcheries. Trout streams, coming from the snow-capped Cascade Mountains, enter the bay close to the city, and many of them may be reached by electric car line.

Within reasonable distance are the famous Scenic and Sol Duc hot springs. The former, situated right in the heart of the Cascade range and reached by the Great Northern Railway, furnishes excellent fishing and hunting at all seasons of the year. In the winter guests are entertained with tobogganing, ski-jumping, and other out-door sports. The Sol Duc hot springs are in the Olympics, and the waters of both springs are said to be excellent for rheumatism and to have other medicinal values.

Interurban electric trains run from Seattle to Tacoma and from Seattle to Everett, while small vessels plying in Puget Sound afford innumerable short and pretty water trips that may be made in a day from the city. Olympia, on Budd Inlet, the southernmost water of Puget Sound, is a beautiful boat trip.

Those interested in naval affairs will find something to their taste in the short trip to the Bremerton navy yard, where the big government docks usually hold two or more battleships or cruisers. Trips by water may be taken to the lumber camps that dot the shores of the sound, to Edmonds, the home of the big strawberry; to the fishing grounds, to Bellingham, Blaine and Vancouver; to Victoria and Vancouver on the Canadian side of the boundary line, or out through the smooth waters of the Strait of Juan de Fuca to the Pacific Ocean. Under a clear blue sky, and in a climate that always is cool and invigourating, rather than hot and enervating as are many of the

inland and eastern cities, the Northwest offers to the tourist a splendid summer outing.

Close to Seattle are canoeing grounds innumerable. Many business people, during the summer months, live either in house-boats on the sound or lakes, or at camps established in the woods which can be reached by electric railroad or by some of the craft plying these waters. Ever changing sunsets on the water, furnish sights to be remembered. Not only on the sound, but, on the various lakes, yachts, motor-boats, and rowboats, ply back and forth carrying scores of campers and lovers of waterscape scenery. The annual power boat race from Ketchikan, Alaska, through perfectly land-locked waters to Seattle, is an event of much interest.

For the historian the Northwest contains many points of interest, such as old forts and battlefields of Indian wars; the dens of contraband purveyors of silk and opium, who, in the early days, dodged revenue officers through the intricate and beautiful bays and estuaries; among the multiplicity of islands and the deceiving smugglers' caves. Puget Sound's alluring archipelago forms a picture of beauty that rivals the Thousand Islands of the St. Lawrence in scenic grandeur and surpasses them in climatic conditions.

Aside from the boulevard drives, the automobilist will find many good roads, especially along the Pacific Highway, which ultimately, by good asphaltum or macadamised road, will connect Seattle, Spokane, San Francisco, Los Angeles and other southern cities. In addition to the government road to Mount Rainier, there are good driveways from Seattle to Snoqualmie Falls, a cataract higher than Niagara; to Bellingham, to Everett, to Olympia, and along the mountain road to Lake Crescent that nestles in the Olympics. These routes pass through a country of splendid natural scenery.

Good-roads clubs and other organisations have done much

for the automobilist in the Northwest. Nature had done her part and it remained for the hand of man to make it available. It matters not what direction the automobilist follows, a gorgeous panorama spreads out before him.

Broad, hard, gravel roads, as smooth and level as a dance hall floor in Alaska, trend in every direction, and in the prairie country between Tacoma and Olympia, the speed limit is unknown. Many motorists choose Mount Rainier as their objective point. One starts with the mountain in full view and rides through ever-changing scenery. The road passes through dense forests and sylvan glens all along the route, and the road in the Nisqually canyon is one of the most beautiful parts of the trip.

To Lake Cushman, a favourite resort for anglers, is another excellent trip; and the run to Portland, where one gets a fine view of Mount Hood, Mt. St. Helens and Mount Adams, should not be overlooked. Good roads and superb scenery are to be found on the journeys to Grays Harbor, Aberdeen, Hoquiam and the Moclips Beach, where may be enjoyed a straight-away run over beach sand so smooth and hard that a tire leaves no track as it spins along. Not the least fascinating of these many motor-trips will be found in the clear sparkling streams which afford good fishing. Meals may be obtained at various places along the road.

To the visitor who does not care for motoring or boating the street car system of Seattle furnishes an excellent opportunity for seeing many places that are distinctly worth while.

Sight-seeing cars leave Pioneer Square twice daily, and those aboard pass three hours in travelling a route of twenty-six miles through urban and suburban wonderland. Trolley lines run to all parts of the city and the suburbs and the interurban lines connect with outlying cities. From the higher elevations of the city one gets a sweeping panoramic view of the coast

lines of Puget Sound, the Olympic and Cascade Mountains, the manufacturing districts of Ballard, and West and South Seattle, Lake Washington and many other places of interest. Capitol Hill is crowned by Volunteer Park, and from here another magnificent view is obtained. Along the slopes of these hills, overlooking the sound, many beautiful residences have been erected by the wealthier citizens of Seattle. There are a thousand places worth seeing, and as the city is intersected with car lines running in almost every conceivable direction, they are easily accessible.

He who seeks a renewal of spirit in the great world of out-of-doors, the one who loves mountain scenery, amply will be repaid for the time and effort expended in ascending to Rainier National Park. Rainier is the peer of American Western mountains. Its foothills, covered with forests of fir and cedar, rise wave on wave, like a dark green sea. One can leave Seattle or Tacoma in the morning, and before the stars are in the sky be at a mountain camp more than a mile above the ocean level. The government roads, beginning where the railroad ends at the park boundary, make this possible. The roads traverse forest scenery by easy grade to the ice fields which lie at an elevation of four thousand feet. Annual trips are made to the summit by the Mazamas and other mountain climbing organisations. At the beginning of the road is found the National Park Inn, and at the upper terminus, known as Paradise Valley, is an attractive summer camp, which is maintained for the accommodation of travellers. The ascent from this point should be undertaken only when the weather is settled, and other conditions favourable, and it is advisable for the tenderfoot to take a guide. While there are no insurmountable obstacles in the way, the climb calls for considerable endurance.

The conditions being propitious, mountain climbing has be-

come one of the popular out-door sports of the Northwest, and from the summer resorts in the Olympic range many of the journeys are projected. Some climbs are marked by well-worn trails, others are less accessible, but all are full of charm to him who loves to reach the pure atmosphere of the higher elevations.

Mount Baker, to one of whose peaks athletes annually contend in a Marathon race from Bellingham, lies to the Northward of Seattle. The summit, rising clear and sharply chiselled above the snow-line, is difficult of access, and its ascension is no undertaking for the kid-gloved dilettante.

The experienced mountaineer, in the country contiguous to Seattle and Tacoma, will find hills to be climbed and many new peaks to be conquered; while the novice in this strenuous sport will find a hundred pleasures in these fir-clad Western Alps.

Termed "The Naples of America," Tacoma, which is easily reached from Seattle by steamship, by launch, by electric car, automobile or railroad train, will be found well worth a visit. With seventy miles of asphalted boulevards and paved streets, an extensive park area, and a picturesque location on a bluff overlooking Commencement Bay, Tacoma is a most attractive city. It is the youngest of the large cities in the West, increasing its population from approximately 1,000 in 1880 to nearly 100,000 in 1911. It has one of the largest deep-water harbours in the world, and is the starting point for many wonderful sight-seeing trips. Electric cars connect the city with many pleasure resorts, and it boasts a stadium with a seating capacity of 30,000 persons. Although close to Seattle, Tacoma has many marks of dissimilarity from its neighbour, and the Alaskan tourist would be repaid for the time expended in travelling from one to the other.

To those who have other interests than sight-seeing in their journey through Seattle to Alaska, let it be stated that both

Seattle and Tacoma offer exceptional educational advantages. There are sixty-one grade and high schools in Seattle, and a present enrollment of 45,537. The University of Washington is situated between Lakes Washington and Union on a plot of 355 acres. The university attendance in 1912 was more than 2,000. The institution is free to the youth of the state and is provided with every facility for imparting education. Some of its buildings originally were a part of the Alaska-Yukon-Pacific Exposition. Seattle has more than 150 churches of various denominations.

At the Puget Sound Navy Yard, situated at Bremerton, a few miles from Seattle, the largest battleship afloat can be docked. Employment is given at the yards to from 1,200 to 1 500 men, and the expenditure for supplies purchased in Seattle exceeds \$100,000 per month. Fort Lawton, a United States military post, is situated within the city limits of Seattle. The 605 acres of land which makes an ideal drill ground and garrison and fort, was presented to the government by the public-spirited people of the Puget Sound metropolis.

Established in July, 1908, the Seattle branch of the assay office, up to December 31, 1910, has received and paid for gold dust to the value of \$199,094,871.05. The amount purchased up till the close of 1912 was approximately \$252,000,000. Roughly estimated, the gold received at the Seattle assay office, during the period mentioned, weighed 504 tons. Alaskan gold, mineral, and fish, comes to Seattle by every boat, and much of it is exchanged for merchandise and other products. The volume of trade between Seattle and Alaska during the last decade has amounted to more than \$500,000,000. Some gold has been mined in the State of Washington, but not sufficient to make any great difference to the assay office receipts. The bulk of the precious metal received came from Alaska and the Yukon Territory.

With hydro-energy in almost incalculable quantities latent in the thousands of swift streams that have their source in the Cascade and Olympic Mountains, Seattle naturally developed into a manufacturing centre. Two hundred and fifty thousand horse-power has been developed, a similar amount is now in process of development and many millions of horse-power are awaiting the installation of Pelton wheels and other machinery. Incidentally, it has been computed by hydrographers in the service of the United States Geological Survey that two-thirds of the available water power in the United States is located in Oregon and Washington.

Seattle's shipment of flour increased 1,600 per cent. in twelve years, and with the development of the great grain-fields in the interior, this industry is destined to show still greater increase.

The following figures, although perhaps somewhat tiresome to the general reader, might be interesting to the travelling business man: The population of Seattle, according to the last census increased 194 per cent. in the ten years preceding. In 1901 the bank deposits were \$20,237,862; in 1911 they had increased to \$76,715,191. Bank clearances in 1901 were \$144,694,367; in 1911 they were \$552,640,350. Postoffice receipts in 1901 were \$228,437, in 1911 they were \$1,000,375.

The latest government manufacturing census was taken in 1909. This placed capital invested at \$46,472,000, and the value of manufactured products at \$50,569,000.

Seven railroad systems have their terminals located in Seattle, connecting with every point in the United States, and the Grand Trunk Pacific, a Canadian system, connects with Seattle by its own line of steamships.

Believing that the water transportation business will greatly increase, the Port District voted in March, 1912, \$8,100,000 for the construction of dockage facilities including \$5,000,000

for the acquisition of a site and the erection of six concrete wharves, 1,400 feet long and 150 feet wide. The terminal facilities, as planned, are to be similar to the terminals at Brooklyn, New York. In June, 1912, the Pacific Terminal Company, an aggregation of eastern capitalists, submitted a proposal for a lease of the Harbor Island Railway and Deep Sea Terminals, agreeing to expend \$6,000,000 in the construction of piers, warehouses, industrial buildings, and terminal railroad facilities.

The transportation business with the Orient has shown a wonderful increase during the last decade, and it is believed that Seattle ultimately will become one of the principal shipping points for countries in the far East. This, taken together with the increase in business and the establishment of steel industries which will follow the opening of the Alaskan bituminous and anthracite coal fields, it is believed, will warrant the expenditures proposed for dockage and other transportation facilities.

Seattle and King County, assisted by appropriations made by the general government, are constructing a waterway connecting Puget Sound, Lake Union, and Lake Washington. When completed this will create the deepest and most perfectly land-locked fresh water harbour in the world. Warships and other craft plying in salt water, upon being placed in fresh water, immediately lose their barnacles and other impedimenta. Thus, dry docking frequently will be obviated. The concrete lock in the waterway, which is being installed by the federal government, will cost \$2,275,000. Ample dockage facilities will be provided on both lakes, together with the rail accommodations necessary for the industrial concerns. A railroad is now building around the shores of Lake Union, and many new industries are being established there. Completion of the Lake Washington Canal will increase Seattle's water-front

from fourteen to one hundred and forty miles. Already \$20,000,000 has been set aside to be expended in harbour improvements during the next five years.

In mentioning Seattle's many industries, one is tempted like the walrus, in Lewis Carroll's "Through the Looking Glass" to exclaim:

"The time has come," the walrus cried,
"To speak of divers things—
Of ships, and shoes, and sealing wax,
And cabbages and kings."

Lumbering and fishing are perhaps the most important, and there are also shipyards, saw mills, shingle mills, stove factories; flour, feed, and cereal mills; brick-yards, terra-cotta works; and foundries, machine shops, breweries, factories and plants for the manufacturing of doors, sashes, blinds, woodenware, excelsior, barrels, boots, shoes, clothing, wagons, carriages, furniture, tinware, soap, crackers, candies, candles, pickles, brooms, baking powder, drugs, jewellery, fish-nets, woollen goods, trunks, and innumerable household commodities and food products.

During the last decade Seattle has enjoyed a most extraordinary increase in wealth and also in population. It is strategically situated to become an important figure in the merchant marine of the Pacific and it is in the centre of a region endowed with many undeveloped resources. Behind it lies millions of untilled acres that rapidly are being made to yield to the farmer's touch. Seattle is peopled by "boosters" who have unbounded faith in that their city eventually will become the New York of the Pacific, and the new arrival soon becomes imbued with their enthusiasm. "We have the resources," they cry, "give us more people, and we will build an Empire."

But they are not sitting down idly and waiting for the people to come. They are seeking the home-seekers. Already a movement has been made by the New Seattle Chamber of Commerce to solidify the various commercial organisations with a view to using their combined strength and effort in attracting the better class of immigrants from the European countries and placing them on the unoccupied areas of rich and fertile soil. When the Panama Canal is finished they expect ships from the European countries to run direct to the Pacific Coast to deposit their hordes of working people, and that these will make the fallow lands productive.

Considering the possibilities of its trade with the Orient, its latent resources, the approaching development of Alaska, and its manifold other advantages, who can say that the period of Seattle's growth is not yet to come?

CHAPTER XIV

HUNTING GROUNDS

Game and fur bearing animals and birds of Alaska—Mosquitoes make life a burden to the sportsman during certain seasons—Habits of the moose, caribou, mountain sheep and goat and various species of bear—Where to go and what to take—Notes on Game Laws—Where guides are needed—Birds and animals indigenous to the territory.

FROM the tiny mosquito to the stately moose and the ferocious Kadiak bear, Alaska is populous with game of many different kinds and descriptions. The word "game" is not applied to the mosquito in the sense that these insects are good to eat—although often enough they manage to mix themselves in with the cuisine of the woodsman—but in the sense that they are imbued with the pugnacity and pertinacity of a bulldog. In addition they are endowed with a nasal, buzzing voice that is more irritating and nerve-racking than the cry of the lone timber wolf, and a "bill" that some miners declare has greater boring force than a diamond drill.

A prospector in British Columbia once told the writer that, on the Liard River, he spread a paper in the bottom of his tent and swung his hunting knife through the air. This more or less veracious chronicler declared that he killed seventeen mosquitoes at the first pass. He averred also that the atmosphere in that locality was so full of mosquitoes that the only way for them to increase their numbers was to reduce their size.

The mosquitoes come with the first warm nights of summer, and live through the season till the first frost. After that peace reigns—or rather peace would reign if it were not

for the gnats, which, although not so pugnacious as the mosquitoes, are quite as industrious and can be depended upon to make the life of the Alaskan a misery to the flesh and a burden to the soul.

The tale is told that in the early history of the Yukon, before the advent of judges and peace officers, the vigilance committees found in the mosquito an able ally in holding their prisoners. They had no jails other than mosquito tents. When they desired to hold a law-breaker until such time as his case could be tried, they put him in a mosquito tent and took his clothes from him. There was no danger that he would attempt to escape. Parenthetically the usual method of punishing crimes against the peace and dignity of the community in those days was to put the offender in a boat with a few pounds of food and a pair of oars and let him float down-stream to the sea.

By the end of July — before the hunting season opens — most of the mosquitoes are gone, but sometimes for the first week or two in August there is an abundance of what are known to the Indians as “no-see-ums,” and to the white man as gnats.

Fighting off mosquitoes and gnats is an art that few people other than Indians can learn. The aborigines are not by any means immune to the bite of these insects, but they annoy the Indian less than the white man. I have observed that when an Indian sees, or rather, feels, the bite of a gnat or a mosquito, he does not make a vicious slap at it. Being devoid of “temperament” he accepts the bite philosophically. He doesn’t allow himself to be angered, but calmly brushes off the offender. A white man has less patience. When one of these insects injects its “bill” through his epidermis, he loses his temper and slaps and cuffs the mosquito — and himself — vigorously and angrily, thereby — the Indian thinks — making himself a more

attractive mark to other mosquitoes. The Indian regards the annual invasion of the mosquitoes and the "no-see-ums" as a kind of a game between himself and the insects. The game is for the Indian to see how many insects he can kill without becoming angry. Every time he quietly brushes off a mosquito or a gnat, he mentally marks down one point in his own favour.

The mosquito literally is "the fly in the ointment" of the Alaskan hunter. In countless trillions they have their being and buzzing, and there is no escaping them. There are several kinds of salves which, their vendors declare, will discourage the mosquitoes' unpleasant activity, but the experience of the writer is that the insects find these concoctions quite palatable. In fact, many of these alleged mosquito-bite preventives seem to encourage the little pests and to sharpen, rather than satiate, their appetites. In the still air the mosquitoes, during the season, hover over head in clouds, but at the first breath of wind they disappear and hide beneath the bushes or grass. Immunity may be found, however, in mosquito tents, if they are properly pitched and in mosquito screens attached to the top of the hat and tied securely around the neck beneath the shirt collar.

But despite these disadvantages, no portion of the North American continent presents a more attractive field for the sportsman and the angler than does Alaska. With the exception of the South African veldts, it is the greatest hunting country extant, but lest the reader should think it has no disadvantage, the writer has emphasised the fact that there are some mosquitoes, and, in the interests of comfort, the sportsman or naturalist going to Alaska in the early summer is advised to make preparations to cope with the little pests.

It matters not what part of Alaska the hunter goes, game in abundance can be found. But the big game hunter should bear in mind that Alaska is a tremendous territory, and that the species of big game which can be found in one region will

not necessarily be found in another. For instance the game to be found in Southeastern Alaska is entirely different from that found on the Alaska Peninsula or on Kadiak Island, and again the game found in the lands edging on Bering Sea and the Arctic Ocean is different from that found in other places. He should remember also that the only part of the country where the law enforces the hunter to take a guide is in the Kenai Peninsula region.

The angler will find practically the same species of fish in all of the Alaskan streams, as more fully described in another chapter, and shore birds, water birds and many varieties of grouse can be found all over Alaska. The herbivorous game confines itself generally to individual districts. Taking these animals in proportion of the utility to the prospector and sportsman, the moose comes first, and therefore the deer family will be the first to be considered.

Speaking generally, the moose ranges from the boundary of British Columbia as far North as the Yukon River, although there are a few isolated places along the coast where they will not be found. Some moose have been killed on the tributaries entering the Yukon from the North, but there is none on the Seward Peninsula or the Arctic coast.

The moose is the largest hoofed animal of North America, and the best specimens can be obtained on the Kenai Peninsula, on the upper waters of the Yukon, in the country surrounding Mount McKinley, and in the valleys of the Kuskokwim and White Rivers. Moose are easily stalked during the months of early summer, when the mosquitoes force them out of the brush into the rivers and lakes. Some of these pools contain alkali, and here moose and other wild animals always will be found.

Fattened by the abundant vegetation, the moose are in prime condition in the running season, which begins about August first and lasts for six weeks. At this season the bulls take to

the higher altitudes, where they fight many vicious battles for the favour of the females. It is contended by some naturalists that the moose eats the wild grass that grows everywhere in the territory in luxuriant abundance, but the writer's observation has been that, with the exception of some bunch grass and horse dock, they subsist almost exclusively on young willows, birch and alders. In fact in the winter season, especially in sections where the snow is deep, the animals seek the draws and gulches, where these plants grow, and remain there practically all winter.

In winter they are an easy prey to the game hunter equipped with long snowshoes, for the moose when chased out of the gulch, sinks belly deep in the snow as it plunges along. A moose might easily have an hour's start of a man on snowshoes, and be caught in a chase of a couple of hours. When driven out of the gulches, they invariably make for a lake or river, where the snows, carried off the ice by the winds, are not as deep as on the solid ground. The cow moose is usually accompanied by her calf all through the winter, and wherever a hunter sees two moose tracks, it is reasonably safe to figure that he is on the trail of a cow and her calf. In the chase the cow leads, and will not desert her calf unless closely pressed. The cow moose remains in splendid condition all winter, and her flesh is much to be preferred to that of the bull, which besides being tough and stringy, has little or no fat.

After the running season the male moose generally remain in the higher altitudes, while the cows and calves are found around the lakes and streams. The bulls will be found at timber-line till about the middle of January, when they are forced down the mountain by deeper snows, and they sometimes join the cows in the draws and gulches. By this time their antlers have been shed. In the spring, when the snow becomes crusted and wolves may run along the surface and moose

break through to the solid ground, the animals "yard up" for mutual protection—that is, they band themselves together, and when attacked, form a circle, keeping the calves in the centre and fighting off their assailants with their forefeet. It has been noted by many prospectors that horses turned loose in the White River Valley to forage for themselves during the winter, "yard up" with the moose in the spring to protect their foals, making the wolf the common enemy of both species.

The calving season is about the middle of May, or earlier, according to latitude and climatic conditions, and is contemporaneous with the growing of new horns by the male. The cow is not endowed with antlers at any season. Like all herbivorous animals that shed their horns, the antlers first appear in a "velvet" of fine brown fur, and in the case of the moose, it is streaked with grey. Believing this fur does not match his complexion or become his particular style of beauty, the male, shortly before running season, becomes obsessed with a desire to eliminate the trimming, and if it does not wear away fast enough, he accelerates its departure by rubbing his antlers against trees. In the latter part of August the hunter frequently will notice spruce and other trees surrounded by hoof marks. These are the tracks of moose which have been "sprucing up" for the running and fighting season. By the end of August the horns are in good shape to give battle to their adversaries.

It does not necessarily follow that the biggest moose will have the largest "spread" of antlers, and it is believed that when disturbed by their natural enemies during the growing season the horns will be smaller than on a previous year. It may be taken as a general rule, however, that the animal that has a large and beautiful set of antlers is not the best for eating purposes. The writer has observed that generally the meat of a moose that has large antlers is more fitted for sole

leather than for human consumption, and the larger the antlers the tougher the meat. There may be exceptions to this rule, but they have not come within the observation of the writer.

Much has been written pertaining to the ferocity of the wounded moose, but although the writer has encountered many of these animals, he has yet to see the first one attempt to make a fight. When wounded the moose almost invariably turns and faces its assailant, but it rarely offers an attack, even when accompanied by its young.

Sometimes a wounded moose will hang its head, its ears will sag, and it will have every appearance of being on the point of dropping dead, but let it get a start through the trees, and more than likely the hunter will have to chase it for two or three days to catch up with it and he may never see it again. The moose differs greatly from any of the bear family in this respect. A wounded bear is very liable to show fight.

In winter, a cow moose, when pressed hard along a river or lake by a hunter, will desert her calf and when the young one becomes tired, he runs off from the side of the frozen stream into the timber and deep snows where he turns and faces his pursuer with a comical expression of injured innocence as though he would say:

"Why on earth are you chasing me? I haven't done anything."

The baby moose has a large and beautifully expressive eye, and if the little fellow looks at him, a hunter needs to steel his heart before he can shoot. More than one man, even when short of meat and who would find much exhilarative enjoyment in drawing a bead on a silver-tip or Kadiak bear, the most savage of the species, has lost his nerve when it came to sending a bullet into a calf moose that happened to stare into his eye.

Next to the baby camel, the young moose is about the most

amusing and friendly animal on earth. He has a confiding, confidential way about him and has not the slightest fear of man. Like the emu of Australia and the antelope of the American plains, he has all the inquisitiveness of youth, and much to the annoyance of his mother, quite frequently makes friends with the first man he sees.

The mother, however, has some of the propensities of the nouveaux riches and is inclined to be particular about the early associations of her offspring. If one may judge by her conduct, her head is filled with school copy-book precepts about the evils of bad company, and instances have been recorded where ultra-exclusive mother moose have resented undue familiarities from plebeian humans. Like other mothers she never sees a fault in her own offspring, but lays the blame entirely to his associates. Woodsmen do not consider it good form to pet a small moose when the precocious and ingratiating young animal comes running towards them. The mother, resentful and jealous, might make it necessary for them to climb a tree or bring rifles to their shoulders.

But to the general credit of the Alaskan prospector, be it written, there are few men in the forests of the North who wantonly slay a cow moose. On the bear, the wolf, the eagle and other destroyers of game, a relentless and unceasing war is waged, but few moose or other food animals have been killed in Alaska by prospectors for the mere wanton joy of killing. The observation of this unwritten law has caused a big increase in the number of moose and other game animals in the Kenai Peninsula and, in fact, nearly all over the territory.

Much amusement can be gained from watching a cow moose educating her calf. The writer once lay hidden down-wind behind some willows in an open pine park for nearly an hour watching a moose and her offspring. Apparently the mother was showing the young one which were the most succulent

plants to be eaten, for every time she found a young, budding willow, she would munch a few bites, and then with a low mooing sound, call the calf to her and direct its attention to the plant. The calf would munch a few leaves, and then run back to his play. He was a busy little chap, investigating every tree and shrub. Once he came within ten feet of where I was hidden, but did not get my scent. The cow lay down, and began to chew her cud after the manner of a bovine. I knew that she had no idea of my presence, so I snapped a small dry twig. Instantly she stopped her meditative chewing and threw up her head, thrusting the ears forward, and sniffing the air. Clearly she was disturbed, but the calf glanced casually around to see if there was anything new to attract his attention. A few minutes later I broke a larger twig. This time the cow was certain that she could not have been mistaken. She jumped to her feet instantly and called for her calf, but faced the direction opposite to the one in which I was lying. Her hearing clearly was at fault. She evidently thought the sound of something crashing through the woods had been borne to her on the wind instead of against it. She looked for a few minutes in almost every direction, and certainly her eyesight was not good, or she surely would have seen me. At intervals I repeated the performance, and after some time it began to get on her nerves.

The moose has no particular fear of man, for I have seen many of them that would not run when they first saw a hunter, but this one obviously was disturbed by something which she could not understand, and, after getting up and lying down again several times, she trotted off, taking her inquisitive youngster with her, presumably to enjoy a siesta in a quieter spot where there were fewer disturbing influences.

A cow moose teaching her calf to swim is also an interesting sight. Heading against the current, the mother gets further

and further into the water, looking back over her shoulder to see that the calf is following. The young one keeps close to its maternal parent, and the mother, being properly cautious, remains out in the deep water only a few minutes at a time. On returning to the shallows, she wanders up-stream a little distance and then repeats the performance. In the summer the mother protects the calf from the wolves by piloting her young into willow brush, where the little fellow, with his long, gangling legs, has no trouble in striding out of harm's way. The short-legged wolves soon become entangled in the underbrush and, if not careful, pawed by the cow's sharp forefeet. If there is a lake or river nearby, the mother, carefully keeping herself between her young and the enemy, dexterously manœuvres her calf into the water, and keeps it there till danger has passed. The wolf is too wise in the ways of the wilderness to take any chances by swimming out to attack a moose that has her feet on solid bottom.

To the prospector, the animal next in importance to the moose, because of its food value, is the caribou. There are two varieties of caribou — the woodland, found in small herds of five or six the year around in the timber-sheltered foothills; and the caribou of the plains, that cross the barren tundras in their countless thousands, roaming Northward in the summer and returning southward as winter approaches. Naturalists estimate there are more than 3,000,000 of the latter variety in the Barren Lands of the far North, but in many of the southerly latitudes, they have been practically exterminated.

The advent of the rifle on Unalaska Island and on the Seward Peninsula was followed by the destruction of the caribou. So long as the Indians were compelled to hunt with bows and arrows, the caribou were allowed to reproduce their kind and keep pace with the natural consumption. The Indians wantonly slaughtered many thousands of these valuable

animals for the mere joy of killing, and the result was disastrous to the animals and the Indians as well. Not more than a dozen years ago the writer saw about 4,000 fawn "reindeer" skins, really young caribou, on the Yukon. "Unborn reindeer" coats, made from the skins of fawn caribou, were sold by the thousands in Alaska a few years ago, and these coats meant the wiping out of many thousands of female caribou.

Professor Vilhjalmur Stefansson, who recently discovered a new race of blond Eskimos in the far North, when discussing with the writer the modes of living of these people, expressed the opinion that the introduction of rifles among them would mean their extermination, because it would result in the annihilation of the caribou herds upon which they subsist.

The caribou travel in a graceful trot, rocking from side to side as they run, and, unless of necessity, never change their gait. Their antlers average twenty points and are very graceful in contour. In their migrations they range as far south as British Columbia and as far north as the shores of the Arctic Ocean. They begin their northern journey about the end of March and return in September and October, usually following the same route year after year.

Like other wild animals that roam in bands, caribou select a leader of the herd, and when the hunter succeeds in killing the chief, he may shoot as many as he wants, for when the head of the herd falls, the balance become panic-stricken and "mill" like frightened cattle. Frequently they stampede back and forth in front of a stand for a day at a time, or until another animal takes up the lead. If the second leader is killed, they become more excited and terrified than before. By picking off the leaders, a herd can be held within rifle range until the last animal is shot.

Although not so large, the caribou is a much prettier and more graceful animal than the moose, and they are less cun-

ning—in fact, they are somewhat stupid, and cling to their feeding grounds in spite of hunters and depredatory animals till they get ready to leave.

The woodland caribou, is somewhat wild and because of the protection it receives from the dense foliage in summer, is more difficult to hunt. The female caribou differs from the female moose in that the former is endowed with horns, which it is believed she does not shed in winter.

Other hoofed game in Alaska includes the mountain sheep and goat. Sheep and goats inhabit the higher altitudes, where they subsist upon tufts of grass that grow out among the crags and rocks, sometimes pawing away the snow with their feet, but often seeking pasture lands on the high points where the winds keep the ground clear of snow.

The hunter who seeks the sheep and goat trophies must be endowed with strong lungs and legs, for the animals usually are found travelling up and down steep hills and around cliffs which are almost inaccessible to man. To successfully hunt these animals the best method is to climb high into the mountains, and hunt downwards. It is futile to approach a flock of sheep or goats from below, because they invariably have one of their number perched high on a rock where he keeps a lookout for everything moving below him. When the sentinel sees or scents danger, he emits a few low, clear bleats, and the flock scatters to higher and rougher ground, or hide themselves among the rocks and crags. Their eyesight is nearly perfect, but they never expect an enemy to approach them from a high altitude.

Of the two species the goat is the larger, but the meat of the sheep is the more palatable and epicureans prefer it to domesticated mutton. The goats have straight horns, which do not make handsome trophies.

Neither male nor female ever shed their horns, but the

head adornment of the male is much larger than that of his helpmate. The horns of the ram frequently make a full turn, and the base sometimes measures from thirteen to fifteen inches in circumference. The fleece, when full grown, is almost perfectly white, and, for this reason, they are difficult to hunt in winter. Although, more like hair than wool, the coats of the mountain sheep make an excellent robe.

Of the fur-bearing animals, the bear is easily the largest. His domain is from the southernmost to the northernmost parts of Alaska. In Southeastern Alaska the black bear is the more common, while around Southwestern Alaska the brown bear has his being. Another variety of brown bear known as the Kadiak, has its habitat on Kadiak Island; the silver tip, or grizzly, lives along the coast and in the interior; the glacial bear inhabits the glacial moraines; and the polar bear lives among the ice floes of the Arctic Ocean and occasionally in Bering Sea. Any of these animals is capable of giving an interesting battle. All will fight desperately when wounded, and there are instances on record, where all of the families, with the exception of the black and glacial bear, have opened the attack. When an unarmed prospector meets a bear on the trail, he regards it as being in conformity with the best usages of wilderness society, particularly in the mating season, to give Bruin the right-of-way.

There is scarcely a native village on Cook's Inlet or the Alaska Peninsula that does not contain at least one man who has been mauled by a brown or grizzly bear. On the Alaska Peninsula two men have met death and five have been crippled within the five years, ending in 1912.

At Seldovia, in 1911, a mate of a fishing schooner, while in a state of undue exhilaration resulting from a too-frequent indulgence in "hoochinoo," became imbued with the idea that he was another "white hope." He could fight, too,—a fact



AN ALASKAN PROSPECTOR



THREE LITTLE BEARS UP A TREE. THE PROSPECTOR REFUSED TO YIELD THE TRAIL, A FIGHT FOLLOWED, AND THEN A MAN WITH A RIFLE APPEARED. THE SHE-BEAR LIES DEAD AT THE FOOT OF THE TREE.

which he demonstrated by beating up a couple of miners. His victories, in a way, were the cause of his undoing.

Chained to a big tree was a three-year-old brown bear, which its owner had raised from a cub. It attracted the attention of the brawling mariner.

"I can lick anything with hair on," he declared, and walking up to the animal, struck it savagely on the nose with his fist. In the fraction of a second the air was filled with bear claws and teeth and in the flash of an eyelash the sailor was laid low. One man ran for a rifle, but another with greater presence of mind, picked up a peavy and began prodding at the bear's head. The infuriated animal stood up to fight off its new assailant, and thus gave excited onlookers an opportunity to drag the unconscious sailor out of the danger zone.

A few carefully directed rifle shots subdued Bruin's fighting spirit. The sailor, severely slashed and bitten, was charged with insanity before the United States Commissioner. The jury, without leaving their seats, adjudged him guilty and he was committed to the lunatic asylum in which Alaska's insane are confined, at Mount Tabor, Oregon.

The bear, wolf, wolverine, and eagle are regarded as the great destroyers of Alaskan game, and Alaskan prospectors, irrespective of the game laws, wage an unceasing war of extermination upon them.

Brown and Silver-tip bears are highly prized by hunters, but the glacial bear, because of its finer fur is considered one of the most valuable specimens of the genus *Ursus*. Polar bears, as has been stated, are found only far to the northward of the Aleutian Islands. To hunt polar bears successfully, one must leave Nome early in the spring and follow the ice fields in their northward journey into the Arctic. If the wind blows from the westward, the bears are carried across the Northern Ocean towards Alaska on the ice floes, and one or more gen-

erally will be seen in a hunt of a few days. In any event, the hunter in this region is fairly sure of some good sport in walrus hunting.

Captain Louis L. Lane of Nome who, it is believed, has killed more polar bears than any other living white man, is authority for the statement that this animal never leaves the ice. It does not hole up in winter as do all other members of the bear family, but by following the ice pack, subsists on seal and fish. Only on very rare occasions are these animals found in Bering Sea, but a trip into the Arctic, near the coast of Siberia, is usually productive of a successful polar bear hunt. The Siberian grizzly, a bear indigenous to the coast of Siberia, also is found in large numbers along the Arctic shore of the Czar's Easterly water-front. The Siberian bears are small and their skins have little value.

Bears are protected by the game laws in Alaska, but may be killed at all seasons of the year in the adjoining Canadian territory.

Much resembling a miniature bear in appearance is the wolverine, whose black coat and orange coloured sides give one the idea of a colossal skunk. The wolverine is very shy and about the size of a yearling cub. They are said to be the strongest wild animal of their size. Usually they live on carrion, but they are rarely too timid to take a chance on their lives by stealing from a prospector's cache.

Driven from British Columbia by the bounty hunters, there are many wolves in the territory, and during the past eight or ten years they have practically exterminated the small deer in Southeastern Alaska. The passage of a law in 1912 providing for a bounty on these animals in Alaska, probably will reduce their numbers.

Next in shyness to the wolverine is the lynx, a variety of cat, whose coat of soft grey seems to be a part of the brush

through which he bounds on all fours. His principal food is rabbits and small birds.

The gamest and most courageous animal for its size in Alaska is the little stoat, or ermine. Smaller than an ordinary-sized ferret, this little fellow has the strength and ability to slay an Arctic hare or rabbit many times his size, and will carry off frozen fish heavier and larger than himself. In winter his coat, except for the tip of the tail, turns snow white.

The rabbit, like the ptarmigan, changes his colour to suit his environment. During the summer season bunny wears slaty grey fur, but as winter approaches this changes to snow white. A peculiarity of the Alaskan rabbit family is that every seven years they apparently disappear. When rabbits are plentiful, moose and other animals are scarce. It is generally supposed that the rabbits die off every seven years, but the writer offers the opinion that they migrate to other parts of the country. In a winter spent at the headwaters of the Francis River, in British Columbia, the writer noticed that while there were hundreds of moose in one section of the country, there were no rabbits. During the winter season it was necessary to travel down the river about sixty miles, where several hunters and trappers were encamped. They reported an utter absence of moose, but an abundance of rabbits. It is probable that rabbits have the same effect on moose grounds that geese have on a field where cattle are grazed. The bovine has an antipathy to eating the grass in a pasture that has been walked over by a flock of geese.

The fox family in Alaska is represented by four varieties — the red, cross, silver-grey and black, or blue. Their habits are too well known to need detailed description here. Squirrels, rabbits and different species of grouse form their chief food supply.

Besides the lynx, fox, mink, otter and bear there are many

fur-bearing animals in Alaska, but the most valuable of these is the marten, or American sable, which can be found in nearly all parts of the territory. In isolated sections a few beaver are sometimes found.

The whistling marmot and many other kinds of squirrels are very numerous in the territory, and so also are ground hogs and porcupines.

Crane, ducks, geese, swan, plover, snipe, curlew, brant, and ten different species of wild ducks can be found on practically all of the streams and lakes in the territory. There are five varieties of grouse and two varieties of ptarmigan. The feathers of the latter bird are analogous to the fur of the rabbit and ermine, changing from a rich tortoise-shell colour in the summer to a beautiful, creamy white, very slightly blended with shell rose, in winter.

On the ground these birds are extremely difficult to see, especially in winter, when the only thing visible against the glaring whiteness of the snow is the slight dark rim that encircles the eye. Their summer plumage is a slaty grey combined with tortoise-shell, which seems to fit in with the brown moss and green leaves. Except in mating season, they are quite approachable, and one may kill them with rocks or crawl up and knock them from willow trees with long sticks.

In mating season the female birds are very cunning. Their nests, made on the ground, amongst the moss and brush, are well hidden. If a man approaches the nest, the hen does not move till he is within two or three steps of it. Then, with tail feathers straggling and one wing hanging down as though broken, she excitedly flutters and hops away, giving an excellent imitation of a bird that has been severely wounded. Always she travels just fast enough to keep out of reach, but when sufficiently distant from the nest — at a point where she thinks the enemy will be unable to discover it again — she

mounts into the air and gracefully soars out of sight, afterwards circling back to her home. If a hunter disturbs a ptarmigan when her chickens have been hatched, the ground appears for a moment to be covered with animated balls of down moving in every possible direction, but, like a flash, they seem to melt into the brush and moss, and search as one will, it is only very rarely that one of them can be found. In the meantime, the mother gives an exhibition of well-simulated pain, and by her flutterings and hoppings, does everything possible to attract the attention of the intruder to herself.

Both varieties of ptarmigan grow long hair-like feathers completely down their legs to the very tip of their claws in winter as a protection against the severe cold of the climate in which they live.

In a country so full of game as is Alaska, it is only natural that birds of prey are very numerous, and amongst these, the two species of eagle—the bald and the golden—are the greatest destroyers of game. These birds levy a fearful toll on the squirrels, rabbits, mice, ptarmigan, grouse and other small animals and birds. There are several varieties of owls including the Richardson; the great grey, or Arctic; the short-eared, the snowy, the horned and the pigmy, the latter about the size of a bluejay. Although carnivorous in their instincts, these are not so destructive as eagles.

Another bird of prey is the jay, or camp-robber, called by the Indians for obvious reasons, the "Hudson Bay Bird." This bird is extremely impertinent, and will pick at a ham or a piece of meat, even though it be attached to the tent. Besides these there are ten different varieties of hawks and any number of ravens and crows.

Great multitudes of small birds can be found on all sides. They include one or more varieties of robins, jays, tomtits, rufus-hummers, blue-birds, swallows, martens, sand-pipers,

sparrows, snow-birds, linnets, and many others peculiar to the Arctic.

Speaking broadly one may hunt any part of Alaska and be reasonably sure of finding good sport, but the better places, of course, are where the least hunting has been done. Except for a lack of caribou, there is perhaps no better hunting ground in North America than on Kenai Peninsula. An excellent hunting ground offering almost every variety of game can be reached by crossing Scolai Pass from the interior end of Copper River and Northwestern Railroad to the head of White River. The Kuskokwim, the Susitna, the Tanana and many other streams in Alaska, because of their extreme fertility offer splendid hunting grounds, and another good place is around the base of Mount McKinley,¹ the highest mountain on the North American continent, and one which has yet to be conquered.

The climate of Alaska is about as varied as its game, and apart from the sport to be obtained in the hunting fields, a few weeks in the bracing, invigourating atmosphere is a good tonic for tired nerves. The herds of game do not exist in such quantities that one may shoot the limit of one's license in a day or two, and the hunter who goes to Alaska expecting to

¹ Captain Cook, of North pole fame—or infame,—claimed to have ascended this mountain. Men who were at the base of the mountain at the time say that it would have been impossible for him to have done so in the time at his disposal, and the photographs which he showed as being the top of the mountain later were proven to have been taken on top of a hill less than 8,000 feet above sea level. Thomas Lloyd and a party of three other miners, of Fairbanks, climbed to what they thought was the topmost peak of the mountain, but it was later discovered in 1912 by Herschell Parker and Bellmore Brown that there was a still higher peak further to the Northward. Brown and Parker were within a few hundred feet of the top of this peak when they were overtaken by a blizzard and had to "hole up" for three days, during which time they ran out of food. They were compelled to hasten back to their camp lower down the mountain side as soon as the storm subsided.

secure many valuable trophies without working hard and skillfully for them is destined to be disappointed.

In the higher altitudes sharp, frosty weather can be depended upon, and the nights almost are invariably cool enough to make a good blanket or robe, with a rubber or canvas sheet beneath it, acceptable. A small cooking outfit, of course, is essential, but it is well to reduce the weight of everything to a minimum, and, while not leaving behind anything that will deprive one of ordinary comforts, a large outfit is not recommended. Good woollen underwear should be worn, and a couple of Denham or khaki suits, with plenty of pockets in the coats, are about all that is necessary for bodily comfort. The coat should be made so that a sweater can be worn underneath. If knickerbockers are worn they should be made very loose and not buttoned or laced at the knee, as one requires perfect freedom for climbing, especially when in pursuit of mountain sheep or goats. In footwear a few pair of thick woollen socks, and low shoes, oil-tanned, of medium weight, but the soles of which should be sufficiently thick to carry a few caulks or heavy nails, will suffice. In the coastal regions, because of heavy precipitation, oilskins are a necessity and gum boots or thigh waders will be found convenient.

A good, high-power rifle is essential. The 30.30 is heavy enough for the smaller bear and moose, but, in order to make certain of a killing when hunting caribou or the larger varieties of bear, a rifle of higher shocking force is necessary, and one of the various makes of 30.40 or a weapon still stronger is recommended. The caribou, although smaller and lighter than the moose, has much greater vitality; and the capacity of the silver tip, Kadiak, brown, polar and glacial bears to assimilate lead without immediate apparent reduction of strength or ferocity, is marvellous. Occasionally a big bear of the varieties mentioned has been killed at the first shot, but this does not

happen very often. Therefore, the hunter will find it to his advantage to take a high-power rifle and make it answer all purposes by shooting steel-jacketed bullets when hunting comparatively small game and soft-nosed bullets for the hardier kinds. There are many different brands of rifles, nearly all of which give excellent results.

Each sportsman has a predilection for a rifle that suits his own particular fancy. Smokeless powder cartridges, of course, are almost universally used. Personally, the writer prefers one of the recently created high power rifles, such as the Mannlicher or the Ross, yet in a hunt for big game that lasted nearly a year and a half, and during a large portion of which time when the life of everybody in the party depended upon the aggregate ability of the members to pull quickly and shoot straight, I obtained excellent service from an old .45 calibre Winchester, carrying a ball about the size of a man's thumb and shooting ninety grains of black powder. I had seen a moose killed at a distance of 1,182 snowshoe steps, approximately 1,200 yards, with a 30.30 Winchester, but experience taught me to have a very kindly regard for that old, black-powder "gun." It weighed about fourteen pounds and, at the end of a long day's walk, I often felt as though I had been carrying a small cannon on my shoulder, but, to use a sporting phrase, "it brought home the bacon."

In addition to a high-power rifle, a shot-gun or a small calibre rifle should be taken for birds and small game, and some good fishing tackle is necessary.

The trout in Alaska streams are as fickle as in other places. Frequently they will take a spoon bait, if it is allowed to spin in the riffles. If they have any preference in flies, it is for the professor but they often strike at royal coachmen and brown and black hackles. The greyling take brown and black hackles, coachmen, royal coachmen, and black and grey gnats. For

all purposes, the coachmen and hackles will be found the most serviceable. The greyling seem to have a preference for a fly that has only a moderate amount of red in it. A can or two of specially-prepared salmon eggs will be found useful. Because of the frost in winter, there are very few angle worms in Alaska, and grasshoppers are not abundant. Whether worms would make a good bait is an experiment that, I think, has yet to be tried. A number of spare hooks should be taken, as one can often catch both trout and greyling with a bait when they will not strike at a spoon or other lure. For bait a small piece of meat, a fish-eye, or a piece of the giblet of any of the many birds, usually gives excellent results. Salmon eggs, however, are the bait that can be most depended upon.

The season for fishing is open all through the year, but the general big game hunting season opens on August 1. It is better to get into the territory the latter part of July, so that a few days' angling for King salmon may be enjoyed along the coast before the game season opens.

Because of the fact that the caribou herd in the Kenai Peninsula was destroyed, Congress made that region a semi-game preserve, and insisted on each hunter in this section being accompanied by a licensed and registered guide. While a guide will add a good deal to the pleasure of the trip, the law — with the exception above noted — does not make it incumbent upon the hunter to take one unless he so desires. Every hunter must procure a license which is obtainable only from the governor of Alaska at Juneau and which is good only during the year it is issued. The fee is fifty dollars to American citizens and one hundred dollars to aliens. There is, of course, a provision in the law which provides that miners, prospectors and settlers may kill any kind of game at any season of the year for food, but it is unlawful for any person to kill a cow or yearling moose, or for any one person to kill in any one year

more than the number specified of each of the following animals:

Two moose, one walrus or sea lion, three caribou, three mountain sheep, three brown bears, or to kill in any one day more than twenty-five grouse, ptarmigan, shore-birds or waterfowl.

At any point to the northward of latitude sixty-two degrees brown bear may be killed at any time, and, as the animals are considered destroyers of game, prospectors in this region take full advantage of this clause in the law. Moose, caribou, walrus, mountain sheep and sea lions may be killed from August 1 to December 10, both inclusive. Southward of latitude sixty-two degrees, moose, caribou and mountain sheep may be killed from August 20 to December 31, both inclusive; brown bear from October 1 to July 1, both inclusive; deer and mountain goats from April 1 to February 1, both inclusive; grouse, ptarmigan, shore-birds and waterfowl from September 1 to March 1, both inclusive.

Each license entitles the holder to ship the number of trophies allowed under the law. The Secretary of Agriculture is authorised to modify the closed seasons, providing different closed seasons for different parts of Alaska, and placing further restrictions and limitations upon the killing of game for a period not exceeding two years in any one locality.

CHAPTER XV

FISHING AS AN INDUSTRY AND SPORT

Salmon-canning business alone annually repays to the people of the United States, twice the amount that was paid to Russia for the entire Territory — Like gold mining, the business has its romance of failure and success — Good sport for anglers in Northern streams.

IF placed end to end, the cans of salmon packed in Alaska in 1911 would make a chain 9,918 miles long. It would reach from Manila to New York and some distance beyond into the Atlantic Ocean. The pack amounted to 134,500,000 cans. The value was a little more than \$16,000,000. More than \$25,000,000 is invested in the cannery business.

Secretary William H. Seward, when drawing up the treaty which ceded Alaska to the United States, demonstrated great foresight by inserting the provision that "the waters that surround the land" be included in the transfer. Fishes taken from these waters every year repay to the United States more than twice the amount that was paid for the entire territory — and this from the salmon alone. It takes no account of the halibut, cod, whalebone, sealskins, herrings, crabs, and other products of Alaskan waters, and all of which form a very important item in the world's affairs. In 1910 more than 15,000 persons were employed in the salmon industry alone. The statistics for 1911 and 1912 are not available as this is written, but there is no doubt that the number has been greatly increased. Of the people employed in 1910, 6,836 were whites, 4,147 Indians, 2,411 Chinese, 2,206 Japanese, 4 Koreans, and 16 Filipinos. The general consensus of opinion is that, in

later years, the proportions of whites and Indians were increased.

From its southernmost to its northernmost limits, the seas of Alaska are one immense aquatic farm. "There are just as good fish in the sea as ever was caught," is an aphorism, and also, there are just as good salmon sites left in Alaska as those that already have been segregated from the government domain. So far none of the canners have gone above Bristol Bay, but salmon swim as far north as the Arctic Ocean. In Salt Lake, near Teller, just below Cape Prince of Wales, the writer has seen salmon so plentiful that, apparently, there was not room enough in the water for the vast horde, and they pushed each other out on the banks.

Many fish prospectors, in the summer of 1912, located fishing sites from Bristol Bay as far north as the mouth of the Kuskokwim and Yukon Rivers, and as time goes on, they will advance even further north.

Except the rush of fortune hunters of California in the early fifties and the big trek of gold seekers to the Klondike and Alaska in the late nineties, no phase of Western life has been invested with more fascinating romance and dramatic incident than the beginning and development of the salmon industry on the Alaskan Pacific. What Bret Harte did for the California gold hunters, Rex Beach in his "Silver Horde" did for the salmon fishermen. The lure of gold never was more dazzling to the prospector for the yellow metal than the "end of the rainbow" to the prospector for red salmon. The gold yield of Alaska in 1912 was not very much greater in value than the salmon output.

"The Pacific salmon are the most valuable fishes not only of the United States, but also of the entire Western Hemisphere," wrote Dr. Hugh Smith, assistant United States commissioner of fisheries, in a recent report. "With the single exception of sea herrings, Pacific salmon are commercially the

leading fishes in the world. The salmon have in fact been Alaska's most valuable contribution to the world's needs, exceeding in abundance and importance those of any other region."

Alike has the history of the seeker of golden metal and the seeker of silver-sided fishes been marked with its grim tragedies. Success in one has been about in the same proportion as success in the other. It is claimed by the miner that the gold taken out of the ground is the cleanest money extant—that it has no blood upon it, that it has made no man poorer and caused no heartsickness and poverty. But this also is true of the fish farmer, for he adds to the world's food supply and helps to alleviate the hunger and poverty which the Scriptures say "shall be with us always."

Both are surrounded by the elements of chance. Both have their failures and successes. At one time or another the Alaska Packers' Association owned forty-four canneries in Alaska. Now this company, once leader of the territory, operates but fourteen. In 1902 there were twenty-seven canneries in Southeastern Alaska. In that same year and the succeeding years, two-thirds of the number went into the hands of receivers.

Years of high prices always create a rush to the salmon field such as is now in progress, and these stampedes invariably are followed by periods of depression and financial disaster. Profits are great when the catch is big and the prices high, but this condition does not prevail always.

The salmon canning industry in Alaska had its beginning almost with the history of the territory so far as American enterprise be concerned, and was coincident with the first discoveries of gold. The first canneries were built in 1878. Gold was discovered near Sitka the same year and at Juneau two years later. The first stamp mill installed in Alaska was

erected at the Stuart mine near Sitka in 1880. In 1882 two more canneries were built, and others were added in the succeeding years till 1888, at which time there were seventeen canneries in operation in Alaska, and the output in that year was 412,000 cases. The value of the Alaskan salmon pack, even at this early date, totalled millions and attracted national attention.

Consumers of salmon, as a general rule, especially those living on the Atlantic Coast, are not generally aware that there is a generic difference between the salmon of the Atlantic and the salmon of the Pacific. The Atlantic salmon is of the genus *salmo salar*, and there is but one kind. The fish is of a uniform reddish colour and the mature fish of uniform size and weight.

The Pacific salmon is of the genus *oncorhynchus* and there are five distinct varieties. Eliminating the Latin names, which are interesting only to naturalists, these are: King or spring salmon, known also on the Columbia River as chinook; sockeye, blueback or red salmon; the coho, silver, tyee or medium red, according to the locality in which they are taken; the humpback or pink salmon, and the dog or chum salmon. Still another variety is found in Pacific waters on the coast of Japan, but it has no commercial importance worth mentioning.

Another very distinct difference between the Atlantic and Pacific salmon is that the former, after spawning in fresh water, returns to the sea while the Pacific salmon, after making arrangements for a myriad reproduction of its kind, dies. Once it leaves the feeding grounds in the salt water it takes no food, and in fact, is believed to become physically incapable of taking food. On rare occasions, however, a silver salmon of the male sex playfully will grab for a trout fly. With the exception of the sockeye, pink and chum salmon, all of the

varieties will snap at a trolling spoon before entering fresh water.

The people of the eastern portion of the United States are not the only ones who are ignorant of the difference in the salmon species. A Pacific Coast canneryman in 1912 received a letter from the United States vice-consul at Liverpool, who asserted that British food manufacturers had complained to him that much of the canned salmon shipped into Great Britain from Alaska was not salmon, and that the cans had been filled with "a species of fish known as the sockeye." The sockeye, as has been pointed out, is one of the high-grade salmon. The vice-consul was very indignant at this alleged fraud, and expressed the opinion that the Britishers were justified in their complaints.

As those engaged in the canning industry do considerable business in foreign markets, it necessarily follows that they have much correspondence with the United States consuls. A Pacific-coast canneryman some time ago wrote a letter to a vice-consul in Germany. Not having any German postage stamps and knowing that United States stamps would be valueless in that country, and yet wishing to enclose the amount of postage for a reply, the canneryman wrapped a ten-cent piece in the letter. He received the information desired, and at the bottom of the letter was a postscript in which it was stated that the law of the United States prohibited employés of the consular service from accepting gratuities, and that the dime, therefore, was returned with thanks and best wishes.

Pacific salmon life is one of the unsolvable mysteries. How does the salmon fry find its way to the feeding grounds in the salt sea? Where does it learn to return again to the parent stream, or one contiguous thereto, as it has been proven that many of them do? Where are the feeding grounds of the vast hordes of salmon that come up yearly from their home in the

mighty deep? How far do they travel going or coming? What do they live upon? Nobody knows. Even Rex Beach, the human tarpon, who is said to be able to talk the fish language and who is said to have fins growing under his shirt, answers with only a silent shake of his head, and mutters, "It's too deep for me."

The salmon domain is almost incalculable in its immensity. They range all the way from Monterey, Cal., as far northward as the Arctic Ocean and even as far easterly on "the top of the world" as the Mackenzie River, on the American side, and from Japan to the northernmost streams of Siberia on the Asiatic seaboard of the Pacific. It generally is believed that the young of salmon lay off the continental plateau at a depth of about 100 fathoms and find their feeding grounds there.

Just what they feed upon never has been ascertained, but all species of salmon, with the exception of the chum when the old home movement is at its zenith — shortly before they reach the river mouths — will snap at a spoon troll with avidity. Trolling for King salmon is developing into one of the industries. With the exception of those caught near the confluence of the rivers with salt water, the salmon — like the shad, herring, mackerel and other migratory fishes — is never found at sea. They simply vanish.

"When salmon go to sea, that is the last we see of them," experts declare. But when the on-shore invasion commences, it is the consensus of expert piscatorial opinion, it begins to the westward along the Aleutian Islands, because there they are found in the early part of May. The King salmon comes first and they are followed by the sockeye or red salmon. Soon thereafter they appear in Cook's Inlet and Prince William Sound.

Further south in the vicinity of Icy Strait, salmon appear between June 10 and June 15. At Wrangell, Karta Bay, and

Ketchikan, the sockeyes appear in July, and still later along the coast of British Columbia.

The King is followed by the run of red or sockeye. The humpbacks run early in July, while the coho, or silver, salmon is the autumn fish. The run of "dog" salmon varies in different localities.

The stranger, who knows nothing of the habits of the salmon, invariably can tell from a distance when the run has commenced because of the number of gulls that hover over the bars and riffles of the streams, picking at the eyes of the fishes.

Red or sockeye come first in point of commercial value, pink or humpback second, and the others are a negligible quantity. Not more than 40,000 cases of King salmon were canned in 1911, but many thousands of pounds of this fish — the product of the angler with a trolling spoon — were put up in mild cure pickle. These were shipped in cold storage to Seattle, thence to the European markets. Reports indicate that the run of King salmon was destroyed in a few places in 1912 by the fall of volcanic ash from Mount Katmai, but these reports have not been authenticated.

Western Alaska produces five-sixths of the red salmon output. Southeastern Alaska is the native habitat of the pink salmon, which is one of the most valuable of chief food products. Pink, or humpback salmon, constitute two-thirds of the pack of Southeastern Alaska. By those most familiar with its qualities it is regarded as the most delicate and the most nutritious of Alaska salmon.

It has the delicate pink colour of the delicious brook trout and is not surpassed in flavour by any species of fresh-water fish taken in Alaska or elsewhere. When cooked they lose their rich colour and this lack of colour, which in nowise affects their food value nor their succulency nor flavour, nevertheless, controls the market price, the value of salmon being

graded according to colour in the order of red, medium red, pink and pale. The difference in the nutrition of the list is very slight.

It is easily apparent from a chemical analysis that the variation in the amount of protein — the flesh and muscle-producing, life-sustaining element — is very slight in the various grades; that in this particular, coho or medium red and the chum salmon are more valuable than the supposedly high-grade red salmon, and that the pink or humpback is within a very small fraction of being just as rich as the sockeye. The latter is much richer in the fats alone.

Why does colour become such an important factor in the salmon market, when it contributes absolutely nothing to the food value or the flavour of the fish? Because colour is a fetich. A long time ago somebody said the world was flat, and it remained flat until someone else proved it was round. Also a long time ago somebody said that red fish were better in food values than lighter coloured ones, and so it will remain until the knowledge that the opposite has been proved becomes generally disseminated.

The preference for the high-coloured fish is a prejudice inherited from the mother countries and the states bordering on the Atlantic Ocean. There's no place in the world as great as New York, and there isn't anything of any kind that is as good as that produced in New York — if one takes the word of some of the people of New York for it. Salmon were discovered in the Hudson River many years before Lewis and Clark descended the Columbia. Of course it couldn't be possible that the salmon in the Columbia had the same amount of food value as the salmon in the Hudson. The difference in the colour proved it.

The Atlantic salmon is a red fish, but the Pacific salmon vary in colour from the blood-red of the sockeye to the pale



ALASKA'S SEAS AND STREAMS TEEM WITH FISH. HALIBUT
CAUGHT IN CORDOVA BAY; AND A DAY'S CATCH OF RAIN-
BOW TROUT AT SEWARD



SALMON FISHING.—“IMPELLED BY THE IRRESISTIBLE CALL OF NATURE, THEY COME IN COUNTLESS MILLIONS TO THE FRESH WATER STREAMS TO PROPAGATE THEIR KIND, AND, WHEN THIS LAST TASK IS DONE, TO DIE”

anemic-looking, but more nutritious, chum, or "dog" salmon. All salmon look alike to a majority of the consumers, but there is an impression with the trade that superiority or inferiority is determined entirely by the intensity of the carmine in the flesh tinting.

Not only is the "dog" salmon unfortunate in its lack of pleasing colour, but it has a repellent name, and everybody knows the old adage about the canine with a sinister cognomen. Where this fish obtained its ill-favoured title is not known definitely. It has been known by that name from the time gold-seekers first came to the coast. In the dawning history of the Northwest, great quantities of this fish were dried and they furnished the bulk of the staple food for hunters and trappers on the Pacific Coast — and also for their dogs, for there were no "canned goods" in those days and "embalmed beef" was an unknown quantity. Even to-day in the northern latitudes this fish is put up in large quantities by the Indians and fed to the dogs universally used for the transportation of supplies and the haulage of burdens over the snow by sled. Hence the use of the name. The King or sockeye salmon is not so easily preserved by drying, and frequently it becomes musty and spoiled.

The Indians prefer "dog" salmon as an article of food to any other fish that swims in the icy waters of the North. The Eskimos always keep on hand a large supply for themselves and their dogs. The Japanese and Orientals, who also know of its excellent food value, prefer it to any other kind of salmon. "Dog" salmon is the best kind of freezing fish and it brings good prices in the eastern markets. It is outclassed in the canned salmon market solely because of its unfortunate name and colour. The colour fetish, like other superstitions, dies hard. Not so very long ago one of the most celebrated naturalists in America declared that the light colour of many chinook, or King, salmon was due to the fact that they had

deteriorated or spawned, and it was only when absolutely convinced to the contrary that he changed his mind.

A big fleet of vessels is engaged to carry the salmon fishermen and their equipment to Alaska. Except when the salmon are running, the canneries, save for a watchman or two, are deserted. For ten or eleven months everything about the cannery buildings seems lifeless, but suddenly on a summer day in June, when each breath of the fresh and invigourating atmosphere seems to give a new span of life, the first vessel of the fleet arrives. The long silence of the winter is broken — the city of a few days has sprung into active being. Indians gather from miles around, and in the Southeastern waters, passenger vessels discharge a horde of Chinese, Japanese and white fishermen. They separate into their various villages — for fishermen are very clannish. Usually they do not wait long in idleness. So well known are the habits of the salmon, that by the time the boats are launched, the nets straightened out and the fishing gear made ready, the "silver horde" is in sight.

Natives bring the news that swarms of fish are returning to the rivers that gave them birth — the streams from which they emerged four years previously as tiny fry. Impelled by the irresistible call of Nature, they come in countless millions to propagate their kind, and when this, their last task, is completed, to die. Their four-year cruise in unknown seas is ended. The sea seems alive with them. Their silvery backs and sides glint and flash in the sunlight, like the bayonets of an army, as they jump playfully in the water.

On the shore everybody becomes feverishly active. The run has commenced and the toilers on sea and the workers on land must make the most of the season of four weeks. Sailing craft tack here and there, tugs and launches sputter out into the bay, and hundreds of small craft, from the Indian canoe to the big surf boat, dot the waters. Each fisherman works as fast as

he can to secure a large share of the spoils. Every kind of trap is used, from the primitive spear of the Indian and the troll of the fisher of King salmon, to the huge seine nets which can be operated only by powerful tugs.

Barges loaded with fish are rushed to the wharves, and still wrigglingly alive, they are thrown out by men who use a one-tined fork. The fish pass into the clutches of a machine known as the "Iron Chink," an indescribably intricate mixture of clanking wheels and shafts and whirling knives, that works with almost human ingenuity. When the salmon leave the machine, they are cleaned of every speck of blood and viscera and every fin has been eliminated. The waste and offal is dropped through a chute into the sea, and above the discharge point the air is populous with gulls, cormorants and other birds which have gathered from far and near to reap their share of the profits that come when the salmon is doomed to death—whether by the hand of man or by the immutable law of Nature that placed its span of life at four years. The birds, squawking and screaming, fight and wrangle with each other over the proceeds.

From the calloused maw of the ingenious "Iron Chink," the cleaned fish, cut into pieces, pass into a revolving chain of trays—one fish to each tray—that works something after the manner of a miniature bucket dredge. The pieces of fish are carried to a point where a great rammer-like contrivance, known as a "filler," plunges back and forth, and here it is met by a machine that carries empty cans. As each tinned receptacle comes opposite the ramming machine, it is filled with salmon, and then proceeds on its way to the soldering room. Passing a table, the cans are wiped by men to remove any grease that would prevent the solder from adhering, and a small piece of tin is placed on the top of each can. Then like a company of tin soldiers, the cans travel in an orderly row to

the soldering machine, which is kept at a white heat by a roaring blast furnace. Each can rolls through a trough of molten solder, and on leaving this groove, it is upended by an ingenious device and stands bottom up. The cans are then thrust into a tank of water to ascertain whether they are air-tight. If any bubbles arise, the punctured vessel is eliminated. The admission of air would cause the salmon to spoil after it is cased. Also the can would bulge at the top.¹

Taken out of their bath of hot water, a crate of cans is carried on a miniature railroad to a great boiler where the fish is cooked by steam for two hours at a temperature of 248 degrees Fahrenheit. Then the rows of cans are shellacked and labelled by a swarm of workers who are as active as a hive of bees. In the casing factory, the clatter of hammer and nails is terrific. It sounds something like a small boiler factory in action with several steel-riveting machines playing the accompaniment.

The work of preparing and canning the salmon is carried on with incredible swiftness. Taken from the traps alive and only as needed at the cannery, the fish are landed at the wharf before they have expired. From that time till they reach the point where they spurt forth from the soldering machine in a steady stream of cans and are placed in the cooking cauldron, not more than five minutes have elapsed.

Strenuous activity continues at the cannery settlement for

¹ In buying canned goods of any kind purchasers will find it to their advantage to see that both the top and bottom of the can is perfectly flat or curved slightly inward. If the top of the can is curved outwards with a bulging appearance, it may be taken for granted that material within is putrified. Practically all canned goods are cooked in the cans, after they have been soldered. When the air within cools it causes the top and sometimes the bottom of the can, to contract slightly. If the vessel is not air tight the opposite is the result.

about four weeks, and then one morning the nets come up with only a very few fish. The next haul will bring not one. The run is over. The white men begin to idle and devise ways of spending their money. Some go into the interior and prospect for the balance of the year. Others join the halibut fleet. The Chinese gather around a fan-tan table. The Indians go their various ways; for them the summer has been a long, profitable holiday. The groaning, creaking winches begin to load the "silver horde" into ships. The buildings are closed and watchmen are placed in charge. Tents are struck. Laden with the treasure of the deep, the ships depart for the south, the bustling, busy settlement becomes silent and deserted for another year.

There are three important cannery districts in Alaska, the Bristol Bay and Western district, the central district and the Southeastern district. In the two former districts the principal grade is red salmon, the best known and most popular salmon on the market. In Southeastern Alaska, while some reds are packed, the principal product is humpbacks or pinks. The canneries in this district are much more accessible than in the others. Most of the supplies and labourers are sent up on the regular Alaskan steamships rather than in special sailing ships owned by the cannery companies. Here, too, trap fishing is more prevalent and fewer small fishing boats are employed.

Aside from the canning enterprises, there are other important branches of the salmon industry. The salmon pickling business every year gives employment to several hundred people. The mild-curing business, which consists of putting the choice King salmon in a light brine and shipping them by refrigeration to Europe, in 1911, employed nearly 1,000 people, whose product was valued at approximately \$250,000. The dry-salting, smoking and salmon freezing industries also con-

tribute their part to the world's supply of nutritious edibles.

Being one of their chief sources of food, the salmon is a most important factor in the economic affairs of the natives of Alaska. In Southeastern Alaska, up until recent times, the natives used seine nets made of sinew, but latterly they use almost every contrivance known to the white man, this being particularly true of the natives at Metlakahtla, where they are part-owners of a fully-equipped, modern cannery.

On the Yukon, Copper and other rivers, in which the water is not very clear, they use a sort of a scoop net, which is dragged through the water from the bank of the river or from a canoe. Just how they can tell the location of a salmon in water as thick as ordinary pea soup, is one of the native mysteries which white men have been unable to solve.

In the far northern country, where from time immemorial the seal and salmon have been the staple food supplies, the natives use nets made of sinew.

Split down the backbone, the fish are dried on scaffoldings which are just high enough to be out of reach of the dogs. Some few tribes of natives add smoke to the drying qualities afforded by the sun, and this process improves the flavour. In order to facilitate the drying process, a few horizontal slits are cut in the sides of each fish after it is split. These splits cause the fish to dry in little squares, just about enough for a nice mouthful.

It is not difficult to tell when one is approaching an Indian camp during the salmon-drying season—provided one's olfactory organs are in working order. The smell of the place differs widely from that of a flower store. The Indians generally are not learned in sanitary science, and leave the offal and scraps of salmon lying on the beach or river bank where, if not consumed by the dogs, it soon becomes putrified, and, therefore, in the summer time, the traveller in Alaska will

find it advisable to approach all Indian camps from up wind.

Whether the Alaskan streams are being depleted is a question that nobody seems able to decide. Some people, mostly those who never have seen Alaska and wouldn't know a fish-trap if they saw one, declare that the industry is being wantonly sacrificed to the greed of the cannery-men, and they point to the fact that the Atlantic streams were destroyed by over-fishing. They say that the fish-trap is inimical to the survival of the industry.

Fish-traps are used wherever available, and it is claimed for them that they constitute a scientific method of fishing. They cannot be used everywhere. Several conditions are required. Essentially a fish-trap must be provided with clear water, good driving or anchorage ground, and a suitable place for the passage of fish. They, apparently at least, are not as destructive of fish life as the opponents of the trap allege. They preserve the fish alive until needed, and when not required at the cannery they may be liberated unharmed.

Except in a few instances, where the streams in times past have been fenced or otherwise obstructed, there is no sign of a general depletion of Alaskan salmon. Many red fish streams that had been fenced and barricaded by the Indians and Russians in the early history of the packing industry, are now producing larger quantities of fish than ever before. This is true of Redoubt River, near Sitka; of Hetta River, on Prince of Wales Island, and of many others. Several streams, on the contrary, are not as productive as in former years.

It may be true that the salmon were fished out of the streams tributary to the Atlantic Ocean, but it would be impossible to charge the destruction of fish life to overfishing. No provision was made for repropagation, and much of the destruction no doubt was due to other influences of civilisation, such as the pollution of streams by sewage, the offscourings of woollen

mills, sawdust from lumber mills and other materials which caused these streams to teem with germs which are totally destructive of fish life and highly dangerous to human life as well.

It is the consensus of opinion among fishing men who have studied the canning business, that the streams of Alaska should be preserved as near as possible to their present natural conditions. So long as the clear water remains, there is hope that the fish will continue to use Alaska for a spawning ground.

The interior valleys of Alaska indubitably will be taken up as agricultural ground, but, these streams are not important factors in the fishing industry. It is also within the realm of reasonable certainty that many large industrial centres will be established on the coast of Alaska. There is an abundance of coal and iron along these shores, and the day is within measurable distance when these mineral deposits will become important factors in the affairs of the steel industry of the United States. Just what effect the establishment of steel mills and ore smelters will have on the salmon fishing industry it is difficult to determine. Certain it is, that, with the building of towns in California the fish were driven away from the coast of that state, just as their number was diminished in the Atlantic streams.

There is every hope, however, that in these enlightened days, the problem of a future supply of salmon in Alaskan waters will prove reasonably simple. It needs the aid of science — artificial propagation — to supplement the work of Nature. The government already maintains two salmon hatcheries in Alaska, while several are maintained by the cannery owners. As time goes on the number doubtless will be increased. A system of hatcheries covering the entire field from Southeastern Alaska to Bering Sea has been proposed, and there is reasonable hope that Congress will make the appropriations necessary

to carry out this plan. No effort should be spared to keep this Alaskan marine farm in its present state of magnificent productivity, for the salmon canning industry is one of America's best assets.

The halibut industry occupies second place in the commercial fisheries of Alaska. At present the business is practically restricted to Southeastern Alaska, the few fish taken in Central Alaska being consumed in the towns in that section. This is almost wholly due to the fact that the present steamship facilities of this section of Alaska are inadequate for the handling of this species as expeditiously as required. Halibut are reported from various places in Cook Inlet, from all along the Alaskan Peninsula and the adjacent islands, and in Prince William Sound.

In Western Alaska the fish is reported from a number of places, the natives usually catching and using it for food. The natives of the Pribilof Islands, when fishing off the islands, catch numbers of halibut and these are usually very choice specimens. In Southeastern Alaska halibut appear to be most abundant in the numerous sounds and straits during the winter months.

Most of the fishing in the protected waters of Southeastern Alaska has heretofore been done in winter, as the fish were then most abundant and the prices realised were better than in the summer when the Puget Sound fleet operates on the Flattery Banks, off the Washington coast, and brings in fish in such abundance that the Alaska-caught fish, which have to be shipped on the steamers plying between Seattle and Southeastern Alaska ports, cannot compete. In 1911, however, the New England Fish Company bought and froze all halibut brought to its Ketchikan plant and as a result a number of fishermen continued halibut fishing throughout the year.

In summer the fish are scattered considerably, but during

the winter they school on banks in the waters of Hecate Strait and off the chain of islands along the coast of British Columbia and Southeastern Alaska.

Dealers located at Hoonah, Juneau, Douglas, Scow Bay, Petersburg, Wrangell and Ketchikan handle the fish from the fishing boats. Scow Bay which is on Wrangell Narrows, about five miles from its head, is the principal shipping point. Here are moored several large house scows, floats and barges, alongside of which the fishing boats tie up and deliver their catch, to be boxed in ice for shipment and put aboard the regular steamers for Seattle, which pass through the Inland Passage every few days. The fish are packed with ice in bins aboard the vessel on the banks. The fishermen furnish their own ice, which generally is secured from icebergs which have been broken off from near-by glaciers and are floating around in the bays, sounds, and straits.

The waters of Southeastern Alaska teem with herring, which, although a nutritious fish, is manufactured into guano and also used for halibut bait. In recent years, however, several tons of herring have been salted down and placed on the market in competition with the herring from Norway and the Eastern coast of the United States. In Northwestern Alaska, several barrels of herring are pickled each year for local consumption.

Black and rock cod, the latter a vari-coloured fish, can be hooked in practically all parts of Alaskan waters, and many thousands of these fishes are shipped to the United States. A so-called "kelpfish," which resembles a sea-bass generally can be caught without much trouble near the kelpfields. It is a gamey fish and offers much more sport than that which can be derived from lugging sluggish halibut and cod from great depths. Soft-shell crabs, some of which are called Japanese sea spiders, abound in Alaskan waters, and the shelving

beaches, when the tide is out, are simply alive with crabs, clams, cockles, abelones and other shellfish.

The streams and lakes of Alaska are alive with trout of all varieties, greyling, whitefish and pickerel, while in Lake Selawik, north of Kotzebue Sound, a fish called "Chee," very much resembling a white fish in shape and taste, but weighing from thirty to fifty pounds, can be caught in abundance during the winter months.

Alaska is a veritable paradise for the angler. The streams have not been fished out, and one is always sure of a fairly good day's sport on almost any mountain stream north of British Columbia.

CHAPTER XVI

TRANSPORTATION AND COMMUNICATION

Transportation a vital problem—Lack of aid to navigation—"The Flat Creek Limited"—Trunk line railroad a necessity—Bering River coal fields—Enormous tax on railroads—Government should lend aid—The government Telegraph system—Alaska's agricultural possibilities and commerce.

THE years that have passed since Alaska passed into the possession of the United States have disclosed to an astonished world its great wealth and wonderful possibilities. Its auriferous gravels have yielded untold treasure; its colonies of seal and other mammals have loaded the markets with valuable and beautiful furs; its seas have given up their wealth of food fishes; its barren tundras have presented us the nucleus of the reindeer industry and taught a lesson in the civilisation of savage tribes; its agricultural possibilities promise returns in excess of all expectation; its unmeasured timber areas will furnish wood pulp and lumber long after other forests have been exhausted; and its undelved coal mines suggest a national opulence beyond the dreams of avarice. It has furnished a wealth of material for the novelist and a paystreak of sensational news for the daily journals into which the history of the United States is written.

Yet Alaska has many problems and the most essential of solution is that of transportation on both land and water. Its coast-lines are bereft of those aids to navigation which are so necessary to the safety of the people. In summer months when the days are long, lighthouses are unimportant, but during the winter when the nights are long and snowstorms are

frequent, travel by water is a decidedly dangerous undertaking.

Alaska's means of transportation on land are Indian trails, a comparatively few miles of gravel roads constructed under the able supervision of the Alaska Roads Commission and short stretches of railroad.

What is the use of all this wealth in Alaska, if there are no facilities for bringing it to the markets of the world?

The lack of lighthouses along the coast can be supplied by small appropriations from the government treasury.

The roads and trails in the interior can partially be remedied by taxes levied on property in Alaska under the Territorial Government law for Alaska passed by Congress shortly before adjournment in 1912.

The construction of trunk line railroads is the most important problem with which the territory is confronted. The coal land question is important, but its greatest importance is in the effect it will have in furnishing tonnage for a railroad running from the coast to the interior waterway system—a road that would make productive the mineral and agricultural wealth which has been discovered.

Alaska has used almost every known method of transportation. Dog teams haul supplies from the towns to the mines; horses are utilised on well-beaten trails; reindeer teams, in some places, carry the mails; every conceivable kind of boat, from the Eskimo bidarka to the ocean liner, has been used on the waters; and there are sundry short stretches of railroad, most of them beginning at tidewater and ending nowhere.

No better illustration of the necessity for a trunk line railroad in Alaska can be found than in the traction system installed in 1911 to operate between Iditarod City and Flat Creek. This railroad is seven miles long, and besides being one of the Northernmost on the continent, it has other claims to distinction. The rails are composed of wooden stringers,

spiked to a corduroy log road and sheathed with hoop iron. The motive power is seventeen mules, operated by an engineer who finds a long whip and sulphurous language more efficacious than a throttle valve. The "train" covers the distance from terminal to terminal in two hours on an average trip, although on one occasion it made the journey in one hour and forty-two minutes. On this trip, however, the train was styled "The Flat Creek Limited" and an excess fare was charged. No stops were made along the road, except at such times as a component part of the locomotive hesitated long enough to grab a mouthful of the bunch-grass that grows close to the track in a few isolated places. Being far beyond the reach of agents of the Interstate Commerce Commission, the operators of the railroad felt they might with impunity charge a single fare of \$3.00 and \$5.00 for a return ticket; and without fear of expensive legal complications, fix the freight tariff at 2½ cents a pound, or \$40 a ton for large lots.

The road was opened with appropriate celebration, the driving of the golden spike to join the last connecting rails and the consumption of vast amounts of alcoholic and maltous beverages being the leading features of the entertainment.

Prosperous miners are prone to celebrate on the slightest provocation and, as the Iditarod mines produced nearly \$5,000,000 in virgin gold that year, the opening of the railroad offered too good an excuse for the inauguration of festivities to be wantonly overlooked.

To justify its admission into the blessed company of great railroad systems, the "train" had not been in operation a week before it was held up by a gang of highwaymen and \$40,000 in gold dust was stolen from the "express car"—an open truck with collapsible sides ordinarily used for hauling cordwood and other freight. But with better fortune than usually distinguishes the operators of railroads in the United States,

the bandits who "stuck up" the Iditarod Special were so energetically pursued by a gang of miners, many of whom were able sharpshooters, that the robbers were compelled to abandon their ill-gotten loot. But that is by the way.

The rates charged on this railroad is the proposition to be considered. It is one that is calculated to arouse the envy of traffic managers in the States.

"Three dollars for a ride of seven miles and forty dollars a ton for freight! Splendid! Where is the place?" railroad operators ask.

And strange as it may appear, the residents of Iditarod do not denounce the owners of the system as an avaricious, iniquitous aggregation of predaceous plutocrats, but regard them as public benefactors deserving of all the public honours and encomiums it is possible to bestow upon them.

Before the season of 1911 closed the road had hauled nearly 4,000 tons of freight to Flat Creek; the miners took joy rides over the line merely for the purpose of manifesting their appreciation, and contracted for the haulage of \$40,000 worth of cord-wood to be delivered in the spring of 1912.

Why these strange conditions? Have these ordinarily intelligent people become afflicted with Arctic lunacy? Why are they willing to pay extraordinarily heavy freight and passenger rates and hail the men who extort these prices from them as their deliverers?

The answer is simple. The Iditarod system traverses a miasmatic tundra bog in which horses sink to their bellies and which is almost impassable for the man travelling afoot. Iditarod City, the point of supply, was separated from Flat Creek and its millions of dollars by this swamp. Supplies—before the advent of the railroad—were freighted across at a cost of from five to ten cents the pound and a journey from the mines to the metropolis was regarded by the miners much

in the same light as a trip from New York to Astoria was viewed in the days when the fur companies' agents and savage tribes were the sole occupants of the territory to the Northwest of the Rocky Mountains — one of hardship and vicissitude. The Bonanza Mine on Flat Creek, only one of many, with a small crew of men produced an average of \$40,000 per week in gold dust, after the railroad was installed. Prior to that time the claim, like many others, was impossible of operation, because of lack of supplies.

This Northern traction system is important — vitally so — to the hardy discoverers of the Iditarod gold fields, but is important also to the people of the United States, inasmuch as it demonstrates that what that system did for those frontier miners and prospectors, a trunk line railroad running from the coast to the coal fields and thence to the Yukon River will do for a large number of the people of Alaska.

In the construction of railroads in Alaska, however, whether the task be done by the government or by private enterprise, it must be remembered that the work cannot be contemplated for the accommodation of those engaged in the ephemeral industry of placer mining, but for those engaged in quartz mining, agriculture and other lines of permanent endeavour.

For instance, in order to furnish cheap fuel to the United States navy and the residents of the Pacific Coast, in competition with the California oil fields, the Alaskan product would not find a very ready sale if the freight rate was the same as on the Iditarod railroad system — approximately \$6.00 per ton-mile. In order to compete with other fuels, Alaska coal must be landed to the coast at a rate not to exceed $1\frac{1}{2}$ cents a ton-mile, and with a haul of 200 miles from the Matanuska coal fields to the coast, this, in itself, will place a fairly heavy charge against the cost of production.

Therefore, the most economical methods of construction

should be adopted and the shortest route offering the easiest grades should be selected, and the problem of protecting the road from attack in the event of war also is worthy of consideration.

The road should be built to open up the coal fields, and furnish transportation to the people resident in the interior of Alaska.

The Bering River coal fields can be reached from Cordova with a railroad only eighty miles long and running over a flat country. The same point can be reached from Katalla and Controller Bay with twenty-seven miles of steel. Personally, the writer has little faith in the possibility of ships finding good harbourage in Controller Bay. It really isn't a bay, but a mud flat on the open ocean, the mud having been deposited by rivers running from beneath Bering and other glaciers, all of which streams are heavily charged with silt. With few exceptions, every attempt to make a landing of any large amount of freight at Controller Bay or Katalla has resulted in loss through the heavy weather that prevails there. Secretary of the Interior, Walter L. Fisher, in 1911 had considerable difficulty at this point and a barge load of government supplies was carried to sea in 1912. These are only two of the many hundreds of similar occurrences. Behind Controller Bay lies a big glacier, making a cold zone. When the warm air of the Japan Current strikes this glacier, it immediately rises and allows a heavy draft of wind to replace it. But harbour facilities are problems for engineers to conjure with and doubtless they will be given due consideration by the members of the Alaska Railway Commission, who, as this is written, October, 1912, are examining the Alaskan coal fields and transportation problems on behalf of the government.

With sufficiently few exceptions to make such exceptions noticeable, railroad construction in Alaska has not been profit-

able, and many of the lines have gone into the hands of the receivers. The laws applying to railroad construction under private enterprise do not tend to encourage investment. Every mile of railroad is compelled to pay a federal license tax of one hundred dollars per mile per annum and a dockage tax of ten cents the ton on all freights handled. The Copper River and Northwestern Railroad Company's taxes last year were greater than the entire amount received from passenger fares, and the tax for three years on a railroad at Nome was greater than its gross income for one year. Add to this the heavy cost of coal, which must be imported from Canada and on which forty cents a ton duty is charged and it readily will be seen that the conditions for making large profits from investments in Alaskan railroads are not ideal. In places where a steady supply of freight can be secured, however, the taxes are not regarded as particularly burdensome.

Apart from the haulage of the coal to the coast, there would not be sufficient freight at first to pay operating expenses for a railroad to the interior of Alaska. Many of the transcontinental lines in America were built and these railroads brought the settlers. This is true of practically all railroad systems west of the Rocky Mountains. These railroads were assisted by government grants. It is obvious, therefore, that if the resources of Alaska are to be made available, the government must lend its assistance.

It has come about that there is much talk of the construction of a railroad in Alaska by the government. In the development of the nation, the people have fallen into the habit of looking to the government to undertake everything, and there is no doubt that if this policy is persisted in for any length of time, it inevitably will result in the State governments losing their individuality and independence and the central government with its vast bureaus will become a great source of power

in the entire nation. In other words the government will become trustified, as it is in Australia and New Zealand, where government ownership of the railroads and other public utilities has been in operation for nearly thirty years, and, incidentally, it is worthy of note that the people of Australia have made but very slow progress under this system. Australasia is within a small margin of being as large as the United States, the country is quite as rich in mineral and other resources as the North American continent, and yet there are less than five million people living there. Australasia has about 17,706 miles of railroad as compared with 302,928 miles in the United States.

There is at present one good example of government ownership in Alaska in the telegraph system of the territory, which is owned and operated exclusively by the government under the direction of the Department of War. The tolls charged on this system are such as would force a private corporation to keep a hydrant playing on its stock books to keep down the dividends to a point where they would not create a public scandal.

The system is composed of 2,633 miles of submarine cable, 1,125 miles of land telegraph line, much of which has now been abandoned, and nine wireless stations. The cost of construction, betterments and extensions, according to government bookkeeping, has amounted to \$2,098,130, exclusive of appropriations included in estimates up till 1914.

Mile for mile, the government charges at least 280 per cent. more for service in Alaska than does either of the large companies operating in the United States.

The rate charged for a message of ten words from Seattle to Nome, a distance of 2,340 miles by steamship course and 2,879 miles by the telegraph and cable route, is \$3.80 and thirty-eight cents for each extra word. The rate charged by

either of the commercial companies for a ten-word day message from Seattle to New York, a distance of 3,000 miles, is \$1.00, and seven cents for each additional word. The rate for telegraph and cable messages from Seattle to London or Berlin, a distance more than twice as great as that from Seattle to Nome, is \$2.90. Messages between points in the United States are transmitted on about an equal mileage basis.

The net earnings on business transmitted over the Alaska system in 1911, including government messages, amounted to \$344,308.24. The average cost of maintenance and operation of the system for the years 1907-1911, is given as \$372,824.45, and at first calculation it certainly appears as though the government has been doing business at a loss. The items of expense are made up of salaries and rations for officers and enlisted men in the signal service, and the maintenance and operation of the cable ship *Burnside*. But although the entire cost of maintenance and operation of the *Burnside* is charged against the Alaska telegraph system, the ship actually gives less than 25 per cent. of its time to this business, and for the balance of the year is engaged principally in other work on Puget Sound. The *Burnside* worked on the Alaska cable in 1910 for about eighty days. The members of the U. S. Signal Service in Alaska are a part of the defence system of territory, and a very large proportion of the cost and maintenance should be charged against the military department, instead of all of it being charged against the Alaskan cable.

About 25 per cent. of the cost of maintaining the signal service in Alaska would be a fair proportion to charge against the Alaska cable system, and on this estimate it will be seen that the government, instead of doing business at a loss, in 1911, made a profit on the enterprise of about \$251,098. The entire cost of maintenance and operation properly chargeable against the system is about \$93,210.

Alaska's ten years' experience with the government telegraphic system has not shown government ownership to be the brilliant success that has been claimed for it. True, the government has profited, but at a terrific cost to the people who have used the service.

This telegraph system furnishes the reason why some Alaskans are not rampantly enthusiastic about government ownership of railroads in the territory. But there are other Alaskans who believe that if the government undertook the operation of a railroad in the territory, it would be forced by competition and by the fact that the experiment would be watched by the people, to conduct it on a sound business basis. It has been suggested that the government guarantee the interest on the bonds of a railroad in Alaska, along the lines adopted in the Philippines, and probably this idea would meet with general satisfaction. In any event it would not involve the experimental work of operating a railroad under a bureau system.

Whether it is built by the government and operated under a bureau, or built and operated by private enterprise, or by the government guaranteeing the interest on the bonds, is material. But the main thing is that the people of Alaska need a railroad, and as time goes on they will need many railroads.

Any writer who advocates the building of a railroad from any particular point on the coast is sure to meet the opposition and criticism of the residents of other towns. There is a partisan jealousy in Alaska, as elsewhere. It is argued on the one hand that the road should be constructed by private enterprise; that the government has no constitutional right to engage in private enterprise for profit. On the other hand, it is contended that the government is able to build railroads more cheaply, for it can sell its three per cent. bonds at par while a private corporation must sell its five or six per cent. bonds

at a discount. The private corporation must at least earn its fixed charges, while the government can afford to make lower rates and even operate at a loss during a few years to encourage the great development which will follow and which will more than justify the investment.

Then, too, development will proceed more rapidly ahead of railway construction by the government whenever a route has been selected. Capital can then be induced immediately to begin the development of mines in the interior, and homesteaders will settle in advance of the construction of such lines, because of the assurance of the government that the road will be built; while in the case of private corporations, with the long record of receiverships which have attended nearly all pioneer railroads, both in the United States and in Alaska, it will be necessary to see the smoke of the engine along the route before capital will be justified in making any heavy expenditures in the development of the interior.¹

The future of Alaska is dependent—in a measure at least—upon the gold quartz mines and commercial ores of the interior and the agricultural development that is sure to follow. The agricultural lands are in the same latitude as Norway, Sweden and Finland and larger than all three combined; and as has been pointed out in another chapter, the Alaskan lands have the advantage of the tempering influence of the Japan current, which is larger than the gulf stream of the Atlantic.

Alaska's population in 1910 was 64,356, an increase of 764 during the ten preceding years, but these figures do not neces-

¹ Early in 1913 the Alaska Railroad Commission filed its report, pointing out three feasible routes: From Seward to Iditarod, from Chitina to Fairbanks and from a point on the Copper River Road to the Bering River coalfields. President Taft recommended that the construction be done either by the government itself or by a government guarantee of the interest on the construction bonds, and that the roads, when completed, be leased to private parties.

sarily indicate that the population will remain stationary always. There is both room and opportunity for the settler. As time goes on a better administration of the country's affairs will be evolved. As this is written elections to choose the first legislature of the territory are being arranged, and while this legislature will not be empowered to administer the public land of the territory, it will be able to make such recommendations to Congress as will place the country open to development.

It may sound like a wild dream to say that within a few years, European immigrants, instead of landing at New York and remaining there to wear out their lives in the polluted atmosphere of the sweat-shops, will sail through the Panama Canal and land on the Pacific Coast, to make productive the unoccupied areas of land in the western states and in Alaska, — rearing their families, building their schools, and evolving a race of robust, intelligent citizens; but it is a dream that likely will come true, for Alaska is capable of raising every pound of beef, every pound of vegetable and every pound of butter or other dairy product that her people will need till the white population increases to two hundred times its present number.

The annual commerce of Alaska with the United States averages \$52,000,000 in round numbers. The total trade with Hawaii slightly exceeds that of Alaska, and that of Porto Rico just about equals it. The trade of Hawaii and Porto Rico cannot advance to any great extent, because these islands already are supporting a large population. Both their trade and their population are near their maximum. Alaska, on the contrary, has abundance of room for many millions of people, and its present population and trade are at their minimum. Under no conditions that can be devised or that are likely to arise, can Alaska's population be reduced, and the day surely will come when its trade will exceed that of all the rest of our

insular possessions and the "open door" trade with China combined.

Although this government spends millions of dollars in the arts of diplomacy and in the maintenance of a fleet in Asiatic waters to protect the "open door" to China, the Alaska trade is worth over \$4,000,000 more per year to the United States than is the Chinese trade and the balance of trade with China is heavily against the United States. While the Alaska trade will increase, there is good reason to believe the Chinese trade will not. Alaska is a coming country of abundant resource, peopled by Americans; China is an old country, and manufacturing will be the principal industry in its future.

Basing Alaska's population at 65,000, and an estimated total white population of 40,000, which is near enough for practical purposes, the statistics of trade show that each white person in Alaska is worth in trade to the United States \$1,302.75; but when the Indians and Eskimos are included the trade value is decreased to \$801.69 per capita. A white man in Alaska is worth in trade to the United States as much as 4.6 Hawaiians, 27 Porto Ricans, or 394 Filipinos.

Statisticians estimate that the maintenance and purchase of the Philippines have cost the people of the United States more than \$500,000,000 in twelve years. It is needless to go into a discussion of a comparison of these figures with what the government has expended in Alaska. Briefly the figures are: cost of purchase and maintenance of Alaska for forty-two years, \$15,500,000; receipts from Alaska, \$460,000,000; profit to the United States, \$444,500,000. And Alaska could be sold tomorrow at a profit of several billions of dollars on its visible assets.

CHAPTER XVII

CLIMATE, AGRICULTURE AND GRAZING

All varieties of climate—Influence of Japan Current—Little zero weather on the coast—Extreme humidity—Prolific vegetable growth—Agriculture in Alaska—Forty miles of natural meadow—Climate of the interior—Stock raising—Floriculture.

EXCLUSIVE of the almost immeasurable area of reindeer grazing ground that lies north of the Yukon River, Alaska contains 65,000,000 acres of agricultural and grazing land and it has an unlimited supply of climate of every kind and description. It generally is supposed that the temperature of Alaska is hyperborean—that it is the land of icicles, so cold that the birds lay frozen eggs, and fly backward to keep the snow from blinding them. Alaska is associated in the minds of many with frozen rivers, fur-clad Eskimos and polar bears. But this popular conception is far from the truth. It rained in many parts of Alaska on Christmas Day, 1911, and on January 1, 1912, the warm weather at Dawson was celebrated by an outdoor carnival appropriately called a "thermodance," at which the participants wore linen dusters and straw and Panama hats were the only kind shied into the arena. In some places in Alaska last winter there was not enough ice on the rivers from which to cut the supply for the following summer.

Spoiled child of Nature, Alaska has been endowed with about everything that could be desired in the way of climate. In places her summer days are three months long, and at other places at other times Old Sol does not show his head above the horizon for a period of six weeks. Alaska's climate is

governed largely by that old friend of our schooldays, the Kuro Siwo, or Japan current, the gulf stream of the Pacific Ocean, which brings beads of perspiration to the brows of Alaskans in the open air while their cousins in Kansas, Minnesota and other states are either hugging the stove or breaking off the icicles that hang down from the stoop. In the far North and in the distant interior beyond the influence of the Japan current the weather is disagreeably warm in the summer and so cold in the winter that the quicksilver freezes and one's breath rattles on the atmosphere like the rustling of straw.

Because Alaska lies far toward the north, it does not necessarily follow that its climate is cold. The temperature is determined not by degrees of latitude but by ocean currents, mountain ranges and the revolution of the earth on its axis from east to west. The winds on the Pacific Ocean produce an equatorial current flowing in the same direction — from east to west. Reaching the Asiatic coast this warm current divides, part going north towards America, warming the country adjacent to the shore-line of the ocean as the gulf stream of the Atlantic warms the British Islands.

Strange as it may seem, the influence that warms the coast land in winter keeps it cool in summer, and that is why the thermometer rarely falls to zero on the Alaskan coast as far north as the Aleutian Peninsula. Records taken at Sitka from 1900 to 1912 prove that there never has been a week in the winter when the temperature was as cold as at New York City, Washington, D. C., or Berlin, Germany, nor has there ever been a week in summer at Sitka when the temperature has been as high as at any of the other three places mentioned. The mean temperature at Sitka for February, 1911, the coldest month of the year, was 33 degrees. Across the coast range, however, where the temperature is not influenced by the Kuro Siwo the summers are warm indeed and the winters are ex-

tremely cold. But there is no typical Alaskan climate any more than there is a typical European climate.

One remarkable thing is the redistribution of timber. As the waters of the Japan current strike the Aleutian Peninsula, they flow back along the coast to the south, picking up along the shores at high tide cedar, fir and other trees which are swept down to the beach by the rivers from the interior, and carrying them into the region of the southeast trades, which take them out to sea till the logs are finally stranded on the Hawaiian and other islands in the Pacific. The natives of the many islands in the South Seas, long before they saw Captain James Cook and his gallant crew of white men, believed their progenitors came from the East, and drifted to the islands in their boats just as the trees had come to them from some distant land closer to the rising sun.¹

Besides adjusting the climate to an equable temperature the Japan current drenches the atmosphere along the coast-line of Alaska with moisture. This humidity, taken together with an extra proportion of sunlight and a fertile, mineralised soil,

¹ Among other interesting tales related to the writer by a Maori, at Christchurch, New Zealand, several years ago, was one to the effect that a long, long time ago, a chief named Tamoa, together with his wife, was fishing in a canoe close to the shore of a place called Hawaggie (presumably Hawaii), when a terrific off-shore storm arose. The wind blew and blew for several days, lashing the sea into a fury, but being a good boatman, Tamoa with the assistance of his wife managed to keep the frail craft afloat. After several days the tempest subsided. Tamoa and his wife were then very hungry, so he threw over a fish line. The line soon afterwards gave a tremendous jerk, and, pulling with all his strength, Tamoa managed to bring a monster to the surface. Much to his surprise he found that he had a big island on the end of his line. The Maoris call this piece of land Hine Tamoa, meaning "the child of Tamoa." Although ethnologists declare the people of New Zealand and Hawaii are the same people, it is likely that the legend had its genesis in the fact that on the shores of New Zealand many logs from other countries, including the continent of America are found.

naturally makes ideal conditions for agriculture. Moisture and light are necessary to growth. If a potato is planted in a dark cellar where there is only one ray of light, the plant will grow toward, and often through, the crack whence the light comes. Everybody has observed that potted flowers in a window always grow towards the side nearest the sun. So, with sunlight for as long as twenty-two hours a day, a fertile soil and an atmosphere drenched with moisture, it is not strange that the growth of vegetable life in portions of Alaska is extremely prolific — so prolific in fact, as to appear semi-tropical.

Generally speaking, the conditions favourable to agricultural pursuits are south of the Aleutian Peninsula, but there are many fertile valleys in the interior, where crops have been successfully grown by the U. S. Department of Agriculture's experts. These crops have been grown not for a year or two, but for eleven successive years, and even as far north as Fort Yukon, which is inside the Arctic Circle, agriculture has been conducted successfully.

North of the Aleutian Peninsula the shores are washed by the Bering Sea, a cold body of water, tempered slightly by the Japan current and covered with ice for seven or eight months in the year. When the sea is covered with ice, there is no evaporation and this condition, in conjunction with an absence of high mountains, makes the country a semi-arid one, and therefore not conducive to agriculture, except in isolated places where the earth is warmed by mineral springs.

Within one hundred miles of the coast the influence of the warm Japan current is dissipated, and the climate becomes continental, with great difference in temperature in summer and winter. Yet the intense heat of summer, together with the almost continuous sunshine, makes agriculture possible. In the interior of Alaska the writer has ridden through a plain



REVENUE CUTTER BEAR CAUGHT IN THE NORTHERN ICE PACK



CAPTAIN E. P. BERTHOLF, HOLDING COURT IN AN IGLOO AT
POINT BARROW



WILD BERRIES GROW LUXURIANTLY IN NEARLY ALL PARTS OF ALASKA—A TRAY OF SALMON BERRIES



GARDEN OF CANTELOUPES, GROWN UNDER GLASS IN FAIRBANKS, NOT FAR SOUTH OF THE ARCTIC CIRCLE

of wild red-top grass that was forty miles long and as broad as the eye could see, and while many theories relating to farming, both optimistic and pessimistic, have been advanced, the fact remains that a great many homesteads have been taken up in the interior valleys, and that the settlers are conducting them at a profit.

Naturally the chief crop in this section is hay. Wild hay grass grows abundantly, but no better manifestation of the country's productiveness along other lines can be found than in the fact that in the Tanana Valley more than thirty thousand acres of land have been segregated for agricultural pursuits, and that since a portion of this land has been cultivated, there has been a great diminution in the amount of potatoes and fresh vegetables shipped to Alaska.

The shipments of potatoes from the States to Alaska in the fiscal year 1911 were smaller by 25,149 bushels than in 1910; of hay, by 2,155 tons; of beans and peas, by 7,322 bushels; and of onions, by 964 bushels. The decrease in these shipments was entirely due in large measure to the increased domestic production, for there was no decrease in the population. The imports of many of these articles were also smaller in 1910 than in 1911, and there is every reason to believe the shipments will be reduced more and more as time goes on and more farms established.

The 1912 potato crop at Dawson and at other points along the Canadian Yukon River was valued at \$30,000. The vegetable crop also included many tons of cabbages, carrots, turnips, rutabagas, celery, parsnips and other edibles. The oats, timothy, rye and hay crops were successfully harvested. The grain was fully matured, the stalks growing to a height of over five feet.

Vegetables can be grown in nearly every part of Alaska with astonishing success. At practically all of the military posts

and at nearly every city in Alaska there are a few truck gardens. Even at Coldfoot, on the Koyukuk River, 68 degrees north latitude, a considerable distance within the Arctic Circle, potatoes, cabbages, peas, turnips and rhubarb are successfully matured, to say nothing of excellent berries of large size and delicious flavour. The vegetables in all parts of Alaska, because of the quick growth produced in the tremendous amount of sunshine, have a crispness and tenderness elsewhere unknown. At the Holy Cross Mission, on the Yukon River, farming and stock-raising have been conducted successfully for many years, and the same is true of many other parts of Interior Alaska, besides many places on the coast and in the southeastern section of the territory.

The islands are particularly fertile, and although many of them are bare of timber, practically all are covered with a luxuriant growth of grass and wild berries. The same conditions are found also on the barren lands, or tundra, northward of the Yukon. While not suitable for a steady diet, these wild fruits are delicious and nutritious. That these berries have life-sustaining qualities is evidenced in the fact that several different men, at various times, when lost without firearms or fish-hooks have kept themselves alive by eating these native fruits.

In the big valleys of the interior agricultural conditions are good and while occasional failure of crops have been reported these disasters are not so frequent as in many of the central states. On the islands and inlets of Southeastern Alaska the growing season is about six months. It is about five months at Skagway and about 107 days in the interior. Practically everywhere vegetables mature when proper ground is chosen and the plants are given attention. So far the chief vegetable crop of the territory is the potato, but in order to grow tubers successfully southern exposures should be chosen for planting.

Twenty-two varieties of potatoes have been grown successfully in all parts of Alaska, but as a general rule the best results were obtained by causing the "bog-oranges" to sprout before planting.

In many of the Alaskan valleys, the black or chocolate loam that has been deposited by rivers during by-gone centuries is from ten to twenty feet deep. In these places wild oats and rye grow to full maturity, and while the whole country offers possibilities to either the stock-breeder or the agriculturist, the territory may be said to be interspersed with many sections which only will be useful as reindeer grazing ground.

There are many great valleys—the Yukon, the Tanana, the Kuskokwim, the Susitna, the White, and several others—where agriculture eventually will be supporting a large population. In these places the last frost may be said to occur between the first and the middle of May, and the first fall frost from September first to September fifteenth. The Susitna Valley alone contains nearly 6,000 square miles of good grass land less than 2,000 feet above the sea-level. The soil is a loam, freely fertilised with decayed vegetable matter, and besides being covered by nutritive wild grasses, the valley is prolific with wild rhubarb and currants and berries of every description. There is no doubt that this district and countless other large areas can produce vegetable and forage crops.

Professor C. C. Georgeson, of the U. S. Department of Agriculture, after twelve years of experimentation work in various parts of Alaska, declares there is no possibility of the failure of the country in agriculture. During his experience in the North many different varieties of rye, oats, timothy, barley and winter wheat have been successfully matured. There are no killing frosts in the summer, but wheat can be grown only in places where there is a snowfall of at least thirty inches, and it must be planted in the fall and matured

the following year. Professor Georgeson thinks, however, that rye will be the staple crop of Alaska cereals. It is a hardier plant and makes more nutritious bread than wheat. There are thousands of acres of rye growing wild, but it is not so nutritious as the cultivated variety.

Besides the many farms and truck gardens conducted by private individuals, four agricultural experiment stations are maintained in Alaska by the government. One of these stations was situated on Kadiak Island and was devoted almost exclusively to experimentation in raising cattle and sheep, but unfortunately much of the stock was destroyed by a fall of volcanic ash that occurred in June, 1912. A herd of ninety Galloway cattle and about as many sheep were bred at this station and the percentage of loss was much less than in Montana, Kansas and other states. The sheep grew to enormous size, the rams weighing as much as 300 pounds and yielding about thirty pounds of wool each year. The cattle were general utility animals — good milkers and excellent beef.

In this connection it is noteworthy that horses are bred by the miners at the head of White River. The animals are turned loose in the fall. There is only a slight snowfall in this locality and the horses live in the valley all winter. The horses soon learned the habits of the moose. As soon as the mosquitoes appear in the spring, the horses begin to browse along the hillsides, ascending higher and higher as the snow disappears.

The Agricultural Department's expert conducted a small truck farm near Fairbanks and in 1911 the yield of three acres of potatoes was sold for \$1,800. Five acres of potatoes planted in 1912 gave every promise as this is written of yielding about \$5,000. There never has been a failure of the potato crop in any part of Alaska, but in some places, because the wrong variety was planted, the product has been rather small. From

the station at Copper Center, now abandoned, the department sold \$5,000 worth of hay from forty acres.

Vegetables, however, are not the only plants that have received attention. The Sitka station has been devoted largely to horticulture, and the day is not so very far distant when the Alaskan strawberry will be famous throughout the United States. By a process of hybridisation a berry that retains all the flavour of the wild strawberry and the size and colour of the best varieties of the cultivated fruit, has been produced. The new berry grows more vigorously than either parent. Fruit trees have been brought to a state of bloom and in one instance to bearing apples.

Besides producing raspberries, strawberries and currants of the finest varieties, a large number of ornamental plants have been cultivated. The most successful flower so far grown is the *rosa rugosa*, a beautiful crimson-coloured, sweet-scented rose from North Japan. This plant grows well anywhere on the Alaska Coast region. Hundreds of ornamental plants such as pansies, nasturtiums, California poppies, sweet williams, phlox, lilies and iris, grow just as well and in many cases better than in the States.

In the fields of luxuriant wild grasses, the great variety of vegetation, the abundance of wild fruits, Nature offers substantial testimony that Alaska is an attractive field for the agriculturist; and it is corroborated in the many gardens at the missions, on the many homesteads and in the work of the Agricultural Department. Further testimony is found in the great wheat fields of Alberta and Manitoba, which districts in the past few years have been converted into an immense granary. The moose, the mountain goat, the mountain sheep on the hill-sides and valleys and the great bands of caribou that roam the plains are Nature's method of showing us that Alaska is a stock-raising country. Yet no man of limited means would be justi-

fied in going to Alaska under the present conditions to engage in farming.

That there is something lacking in Alaska is evidenced in the fact that while the population of the Western provinces of Canada for the three years ending June, 1912, is estimated to have increased at the rate of 11,800 a month in American citizenship alone, the population of Alaska increased less than 800 in the ten years ending in 1910. There can be no great difference in the natural elements of the two countries. The mere fact that an imaginary line divides Canada from Alaska makes no difference in the soil, the atmosphere or the water that falls from the clouds. If there be any advantage it surely rests on the side of Alaska, for the American territory is closer to the tempering influence of the Japan current, it has less elevation and there are fewer killing frosts.

Alaska lacks railroad transportation and markets for its products. Apart from the amount consumed by local communities there is no sale for Alaskan agricultural products and there never will be until such time as a means of cheap transportation is furnished from the interior valleys of Alaska to the markets of the world. There is a splendid opportunity to raise cattle in many parts of Alaska, but no means by which they could be taken to the markets for sale.

Mining is the paramount interest in Alaska, and it will probably continue to be for some time to come. But the building of railroads in Alaska is inevitable. The day must come when the government either must build a trunk railroad itself or throw the country open and offer inducement for private capital so to do. Then the homesteader will settle ahead of the construction lines and there will be a full fruition of the territory's natural products.

Finland, Sweden, Norway and Iceland, countries not so highly mineralised as Alaska and containing less arable land,

support a population of more than twelve millions of people, while Alaska — a much richer country — supports a population of less than 40,000 white people and about an equal number of natives. Surely this condition cannot prevail always.

CHAPTER XVIII

MINES, MINERS AND MINING

Alaska has produced in mineral thirty-two times the purchase price of the territory — Gold — Copper — The fascination of mining — The life of the prospector — Fabulously rich mines sold for a song — Half of Alaska yet to be explored — Gold discovery at first discouraged by Russians — Russians had knowledge of iron and copper — Advent of American miners — First shipments of gold and silver — The Treadwell mine — First placer mining — Later discoveries — Copper development — Tin — Coal — Oil — Marble — Graphite — Variety of Alaska's mineralization — The Alaska coal question.

NATURE has been extremely profligate in the distribution of her riches throughout Alaska, but more than in any other particular has she been generous in the manner in which she has scattered mineral wealth over the entire territory. To the miner and prospector Alaska has been the land of the Golden Fleece. Not always has she enriched in a material sense the individuals who climbed her jagged hillsides or delved in her stream beds in search of glinting metal, but her aggregate contribution to the world's supply of gold and other treasure has been tremendous.

Since active mining first began in 1880, Alaska, up until 1911, had produced in round numbers \$206,000,000 in mineral, nearly thirty times the amount paid to Russia for the entire territory. The yield for 1912, if the estimates made by banks and the United States Geological Survey are correct will increase the yield to about thirty-two times the amount originally invested by Uncle Sam in his real estate "dicker" with the Czar of Russia pertaining to a little strip of ice-covered prop-

erty then known as Alayaska. Of the amount produced till the close of 1911, \$195,000,000 was in gold, much of which came at a time when it was badly needed to relieve the distressing financial conditions that followed the panics of 1893 and 1907.

Alaska produced its first copper in 1901, but up until 1910 the yield was not great. About \$1,500,000 worth was produced in 1911, but with the construction of the Copper River and the Northwestern Railroad to the mines in the Copper River Valley and the opening of other deposits of this metal at a point contiguous to steamship transportation, there is good reason to believe that the production will be increased by approximately 300 per cent. in 1912. The manner in which the copper industry was stimulated by the opening of the railroad mentioned is a striking illustration of the need of railroads in other parts of the territory, to say nothing of the necessity for the opening of the Alaska coal fields, which would allow of the construction of a smelter in Alaska.

It is not the mere monetary reward that attracts fortune hunters to Alaska. It is an inherent characteristic of the human to love any occupation that offers an element of chance. The mythical pot of gold at the end of the rainbow, the romance and the mystery of mining make it an attractive avocation. There are hundreds of men in Alaska who have more money than they really want and yet they find more happiness in wandering over the hills with a scant supply of beans and bacon than they can obtain in all the lighted highways of civilization. The yellow metal lures undaunted hearts ever to search for treasure, and it is to this propensity of the human kind that the world owes many of its greatest achievements in science, art, literature — everything that makes the world worth while.

It is not the lust for gold — the mere acquirement of money

— that attracts miners to Alaska, but the joy experienced in actually taking from the ground a piece of virgin gold — something that has made the world richer and that has caused no heartaches nor sorrows. There is a fascination about a mining field that no other place in the world offers. Once become addicted to mining and it is difficult to abstain from it.

As a study of human nature the people of a mining camp can furnish interesting material. Endowed with physical courage and initiative, brought together from all parts of the world, unfettered by traditions or conventions, unhampered by personal vanities, the gold hunter stands in a new mining community as God created him, and he is surrounded by fellows of his own kind. He regards all as his friends; he knows that they have endured the hardships and privation that he has suffered. Among them more than likely he will find one, or perhaps many, whom he has seen in other mining fields in distant countries and under different conditions. Around the camp-fires one hears tales of men who have wandered in every out-of-the-way corner of the world; stories of fortunes just missed, of lost mines and lost creeks, of competencies made and dissipated or lost again. It matters not whether it be under the burning sun of the desert or in the biting, silent cold of the Arctic, it makes no difference what flag floats over them, they are one people, with one purpose. On a gold stampede all are kindred — a rough, masterful, whole-hearted, generous crew, ready to divide with each other in times of stress what the gods have given, who greet you with the open hand of fellowship, whose charity comes from the heart. Among them the stranger's past is his own and his future is in the keeping of everybody. They won't ask his patronymic and they care not whence he came. If the new arrival offers the information, it is accepted at its face value; if he is uncommunicative, they give him a nick-name and let it go at that. Locked in their own breasts

are their own family secrets, and perhaps each occasionally allows a homesick sigh to escape his lips, but they manifest no curiosity in regard to the family skeletons of their neighbours. Imbued with a love of adventure, each is ready to accept the other for what he is — not for what he possesses nor for what glories or honours his past might hold. One hears much of the decline of prospecting, but so long as country remains untraversed and gold undiscovered there also will remain the prospector.

Less than three-fifths of Alaska has been covered by white men, and none can tell where the end of the mineral zone may lie. In Victoria Land, far to the eastward of the Mackenzie River and lying almost in the centre of the Polar Sea, where Vilhjalmar Stefansson in 1912 discovered a tribe of people who theretofore never had seen a white man, there are lenses of native copper from which these aborigines have fashioned their implements and weapons. The time is coming — and soon — when these regions will be invaded by the prospector. Let somebody find a little gold, and a stampede will follow.

Cold weather does not discourage the prospector. Seventy degrees below zero holds no terrors for him. They are the grittiest men on earth, possessing abundant push and energy and all the attributes that go to make up a virile manhood.

By going prepared for the cold they know they will encounter, they sometimes accomplish a journey of 1,000 or more miles across unknown country, where there is not a sign of habitation, with comparatively little inconvenience. They carry fur-lined sleeping-bags, which they lay on the snow at night, and then crawl in and buckle the flaps over their heads. Their underwear is of the best grade of wool, and with a light Denham parka outside to break the wind, they are able to travel long distances through the bitter cold. When camp is made, the word "hustle" finds its fullest significance; a

fire is started, snow or ice is melted into water and a meal is prepared with astonishing quickness. Usually a large pot of pork and beans is cooked and then set out and allowed to freeze. The frozen mass is thrown in a sack next morning, and when camp is made at nightfall, a few chunks of it are chopped off with an axe and put in a frying pan to warm. By the time the water is boiling for the coffee, the beans are thoroughly warmed and supper is ready.

The writer once joined a rush from Dawson. The point where gold was supposed to have been found was about one hundred miles down the Yukon River and up another stream. In some manner the news of the alleged strike had assiduously been circulated amongst the gambling fraternity and a great many of that class of citizens hit the trail. Haste in arriving at the alleged New Eldorado, of course, was a matter of prime importance, as the first on the field naturally had the selection of the most favourable looking claims. Many of the mushers made the journey without stopping, eating frozen bread or hard-tack to sustain themselves as they jogged along the trail behind their tired dogs. The experienced stampeder came prepared, and a few minutes after their arrival on the scene they had fires going and their bacon and beans thawing. But it was not so with those gamblers. They stood around in the intense cold eating chunks of frozen bread and other ice-encrusted food. One of them attempted to make some flapjacks, a kind of hot-cake. He mixed the flour into thin, syrupy-looking batter, and then placed the bucket in which it was contained in the snow while he attended the fire. By the time he had the fire arranged to his liking, the dough had frozen solid.

Once in a while a stampeder becomes sick on the trail. If he is travelling alone it is quite likely he will die, but if others are with him, he is placed in a sleeping bag in the sled and driven along. If necessary, stops are made and warmed irons

or bottles of hot water are placed at the sick man's feet. The hardships and inconveniences sometimes are many, but ever in the mind of the stamperders is the knowledge of the fortunes made by others who shared similar experiences. They like to remember that some of the miners on the creeks of the Klondike amassed wealth at the rate of more than a dollar a minute during an entire long winter; they remember incidents in which miners have taken out \$1,000 with every bucketful of gravel; and no sooner do they arrive at the scene of a new strike than they stake out their mining claims and begin an eager investigation of the gravel.

The life of the miner and the prospector is one of romance; it is filled with thrilling incidents; and many are the claims worth millions that have been sold for a song. The Treadwell Mine that has produced nearly \$50,000,000 was sold for \$400; one of the richest claims in the Nome district was sold for \$30 and a bottle of whiskey. One of the greatest producers on the celebrated third beach line at Nome — one of the richest placer mines in the world — was traded for a gasoline engine that was out of repair. There is always an element of uncertainty about mining. Every time a hole is sunk to bedrock the prospector has one chance of striking it rich. Thus is he ever hopeful. Nature's hidden yellow treasure is the lodestone that draws them all — some to find a fortune and some to suffer travail and bitter disappointment.

Much of the placer mining in Alaska is conducted in winter, when the temperature is anything but Floridian. The extreme cold is an aid to the miner, as it freezes the earth, and by thawing a hole to the bottom with steam or hot rocks he is saved the trouble of timbering the walls of his shafts or the roofs of his tunnels. Besides that, he has no water to contend with. In many places in Alaska, where part of the ground is frozen and part thawed, the gold yet remains in the thawed sec-

tion, while that in the frozen gravel long since has been extracted.

Although millions of dollars still are annually produced by the primitive methods of the individual placer miner, many of the fields now are operated by dredges and other labour-saving devices. There yet remains more than half of the territory to be explored and as mineral is found in these at present inaccessible places, their history will be much the same as that of other fields more fully developed. First will come the lone prospector with his dog team in winter or his crude boat in summer. He will be followed by a horde of stampeders, who will install sluice boxes and do their work largely with pick and shovels, and then, when the richest of the ground is worked out, will come the dredge or the hydraulic elevator and wash out the last speck of the precious metal.

The earliest exploitation of metal in Alaska was the recovery of copper nuggets from the stream beds or native matrices by the natives on the Copper and White Rivers. This primitive mining consisted of digging into the banks with a caribou horn or other primitive shovel, and it probably was carried on for countless generations before the arrival of the white man. Vitus Bering and Dr. G. W. Stellar, who made a landing at Kayak Island in Controller Bay in 1741, and were driven from there by a storm, noted that the natives used knives, arrow heads, spear points and other weapons and implements made of copper. Natives in many parts of Alaska when first encountered by explorers were found to be using copper for similar purposes.

The name of the discoverer of gold in Alaska appears to have been lost. Historians relate that during the Baranof's reign in Alaska, the discovery of precious metal was vigorously discouraged, several Russians and half-breeds being flogged for bringing samples of gold-bearing ore and placer gold to New

Archangel. A stream of profits from sea otter and other furs poured into the treasury of the company of which Baranof was the head, but after the "iron governor" had passed on and the indiscriminate slaughter carried on by the hunters had practically exterminated the sea otter, the Russian-American Company turned its attention to mining, and, influenced probably by the gold discoveries in California in 1849, a mining engineer named Doroshin was sent out to explore for precious metal and commercial ores. Doroshin, with a large force of labourers prospected the several streams on Kenai Peninsula, but the result of two years' work was only a few ounces of placer gold and although Doroshin expressed the opinion that the field was a favourable one for exploitation, further efforts were abandoned. This was the beginning of an industry that at this writing, 1912, has been yielding an average of about \$12,000,000 annually for twelve years past. The present output is about \$16,000,000 annually.

The Russians, aided by American capitalists, who formed a subsidiary company for the purpose of exporting ice from the glaciers of Alaska, made another effort to embark in mining in 1854, when considerable work was done on the coal measures near Port Graham, on the east side of Cook Inlet. A small amount of coal was taken to the company's shipyards at Sitka, and several hundred tons was shipped to California. The fuel brought only a low price, so the export business was dropped.¹

Within a few miles of the point where the Russians mined the coal and gold, were three of the richest copper mines in Alaska, many streams carrying payable placer gold, and some quartz veins richly permeated the glinting metal. These remained to be discovered by the energetic prospectors who invaded the country after the territory was transferred to the

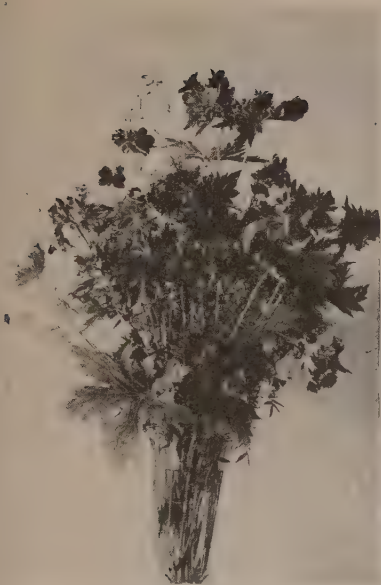
¹ W. G. Whorf was granted a patent to this ground in 1913, after living on the ground for twelve years.

United States. Within a few miles also lay the Matanuska coal fields, an immense deposit of bituminous and anthracite coal, hundreds of square miles in extent.

The Russians also made a search for iron ore beds, but without positive results. It appears from the records of the company that many of the Russians knew of the copper deposits. They probably had knowledge of the existence of the lenses that developed into the Ellamar and other mines, and it is likely that they saw the big green hill that later was developed into the Bonanza Mine. They could not avoid seeing it, as the hill at one time was covered with copper stain, and from a distance it looked like a field of intensely green grass.

After the territory was ceded to the United States, American prospectors from California and other parts of the Pacific Ocean invaded Alaska, and two years after the transfer—in 1869—they found placer gold at Sumdum Bay. A payable quartz vein was found near Sitka in 1877, and the first mill was installed about three years later. The first real output of placer gold came from Juneau in 1880, and it was followed soon after by the metal shipped from the great Treadwell mine. Silver-lead ores were found at the head of Fish River, a tributary of Norton Bay on Seward Peninsula in 1880, and a small shipment was made in 1883. Placer gold also was discovered in this region by members of the Telegraph Survey Expedition, but the metal was not found in payable quantities until 1898.

Gold was reported from the bars of the Yukon tributaries by the early explorers and fur traders, but the first actual mining was done on Cassiar Bar, on Lewis River, by a party of American miners who were among the first to force their way across the Chilkoot Pass. As the route became better known more prospectors penetrated the interior, and in 1887, placer gold was found on the Alaskan side of the boundary in the Forty-Mile region. Gold was found at Rampart in 1893 and



Photos by Pedersen.

WILD GERANIUMS, WILD ANEMONES, WILD RED CURRANTS
AND WILD IRISES



COPPER MOUNTAIN FROM HEAD OF LANDLOCK BAY.—“ . . . LIFTING THEIR RTGGED HEADS
IN MIGHTY MAJESTY, OR SHOWING THEIR GAUNT OUTLINES THROUGH EDDYING MISTS
LIKE DANCING SKELETONS . . . ”

before that on the bars of the Innoko River and other streams near the mouth of the Yukon. In 1896, when the discovery of the Klondike gold fields was made, there were about 1,000 prospectors in the country.

Meanwhile prospecting and development had continued along the coast-line. The Treadwell was producing about two-thirds of the entire output of approximately \$500,000 per annum, and several other quartz veins which since have been developed into mines, had been opened up in the Juneau region. The placers of the Sunrise district in Cook Inlet were discovered in 1894, and a gold bearing ledge had been opened up on Unga Island in 1886.

Gold in payable quantities was found on Seward Peninsula, on Ophir Creek in March and at Nome in September, 1898.

By 1900 the field was in a high state of productivity, and as the years went by it was found that the precious metal was disseminated practically all over the Peninsula. The Koyukuk was discovered in 1899, and the Fairbanks district in 1902. A paystreak was uncovered in the Kotzebue Sound country in 1902, in the Copper River Basin in 1899 and 1902, in the Susitna Basin in 1904 and 1906; at the head of the Innoko River in 1907, at the Iditarod in 1909, at Ruby and Good News Bay in 1911, and on the tributaries of the Kuskokwim River in 1912.

From 1880 till 1911 these fields produced gold to the value of \$195,000,000 and as a number of quartz veins have been developed and new placer fields discovered, it is within the realm of reasonable expectation that this output will increase as time goes on.

The exploitation of the commercial metals commenced in 1881, when an attempt was made to open up the copper deposits on the easterly side of Prince of Wales Island. Work soon was suspended till 1899, when operations were resumed,

and at the same time the development of the copper deposits on Prince William Sound also was begun.

The presence of placer copper deposits in the Copper and White River Basins was known to the Russians through their relations with the natives, but there is no record of these places having been visited by white men till 1891. The feeling between the Russians and the natives was not conducive to interior exploration. The native law of reprisal is "a life for a life," and as many natives had been murdered by the Russians, the latter did not deem it safe to make journeys to parts remotely situated from their stations and forts.

The lode deposits in the Copper River district were discovered by a band of argonauts who were endeavouring to reach Dawson through this valley in 1898. The discovery led to systematic search and the finding of copper on the Chitina River, a tributary of the Copper, and other places in that region was affected in the succeeding years up until 1903, in which year the copper at the head of White River was also located. The metal at the head of Copper River was not made available until 1911, when the Copper River and Northwestern Railroad was constructed to the Bonanza Mine at Kennicott.

Placer tin was discovered in the Seward Peninsula in 1900 by members of the United States Geological Survey, and the lode tin was discovered three years later. The mines were operated in a more or less desultory manner till 1911, when a dredge was installed on Buck Creek, and a real production commenced. With the installation of the dredge the production averaged a little more than \$1,000 a day. The tin fields, however, are so situated that the climate makes operation for more than 130 days a year impossible.

Although coal mining in Alaska dates back to 1854, the first systematic work was done in 1880 at Kootzanoo Inlet, followed in 1888 by the opening of a coal measure at Kachemak Bay,

Cook Inlet. Coal beds on the Alaska Peninsula were first opened in 1889; and those at Herendeen Bay and at Chignik in 1893. Coal mining began on the Yukon in 1895, near Hess Creek. After Dawson was discovered, mines were opened on the Yukon in both American and Canadian territory, but the fuel is of poor quality, and not much of it was mined. The Cape Lisburne fields, perhaps the biggest measures of high-grade coal in Alaska, were found by early explorers, and a little fuel was taken from time to time for the use of whalers and revenue cutters. One cargo was shipped to Nome, but the vessel carrying it was wrecked en route.

The government since has put a ban on all coal mining in Alaska, but in spite of this fact, government teachers at Wainwright Inlet in 1911 and 1912 took nearly 2,000 sacks of high-grade coal from the beds which lie in the country between Icy Cape and Point Barrow. The natives in this locality have been taught to burn coal for their own use.

The high-grade coal fields in the Bering River field near Controller Bay, which have been the cause of so much political and legal controversy, began to attract attention in 1895, but prospecting was not commenced till several years later. Development of the Matanuska coal fields began about 1903, although they had been discovered some years before.

The Russians were the first to discover oil seepages in Alaska, but the first drilling was not done till 1901 at Controller Bay, and at Cook Inlet in 1902. The people resident at Katalla make their own gasoline and kerosene, but there has been no great production of oil from this field. Several wells were sunk, and it is believed that flows of oil were encountered, but the cups were screwed on the casings. It is thought that inability to secure patents to the ground is the cause of the inactivity.

Marble for tombstones and building purposes was quarried

in Alaska about 1898, but the business was not conducted on a large scale till 1904. In that year a quarry was opened up on Prince of Wales Island and many shipments were made. A gypsum deposit was opened on Chicagoff Island in 1904, and a large amount of the plaster of Paris manufactured in the United States came from this deposit till June, 1912, when the wharf collapsed and operations temporarily were suspended. Three marble quarries were in operation in 1912.

The first discovery of graphite in Alaska was made in 1900 in the Port Clarence region on Seward Peninsula, but no large shipments were made till 1912.

Except for the practice of thawing frozen gravel, and occasionally freezing thawing gravel to keep back a flow of water, the mining methods in Alaska are very similar to operations in other countries, and apart from lack of transportation facilities no unusual difficulties are presented.

Several immense deposits of iron ore, both magnetite and hematite, have been found in various parts of Alaska, but so far no actual development work has been done. Analyses made of an immense iron bed situated near Nome gave high returns in manganese, and other constituents that experts say would make it an ideal smelting ore. The cost of shipment, however, is so great that under present conditions it is questionable whether it could be worked at a profit.

Geologists declare there is a greater variety of minerals in Alaska than in any other mineralised zone in the world, and many of the veins exploited carry several enrichments. A quartz mine near Nome was first thought to be an antimonial ore, but a few feet from the surface it turned to a mineralisation of lead and silver, and at a depth of 250 feet showed high gold values. In several places in Alaska coal and gold and coal and iron are found in proximity to each other.

Alaska has produced in commercial quantities the metals gold,

silver, copper, lead and tin, and the non-metallic minerals coal, petroleum, gypsum, marble and mineral waters. In addition to these there are deposits of iron, tungsten, antimony, quick-silver, asbestos, sulphur, jade, peat, mica, graphite, molybdenum and bismuth. Its precious stones so far as known are garnets, an abundance of extremely small rubies in the ruby sands, a few olivines and agates. Platinum has been found in very small quantities in association with placer gold.

While the metalliferous minerals have produced a great amount of wealth, it is to the Alaskan coal measures that the people of the Pacific Coast states must look for a share of their future prosperity. The amount of bituminous, semi-bituminous, anthracite and semi-anthracite coal in Alaska is stupendous, while lignite is scattered all through the country and there is an almost unlimited amount of energy in the peat beds should the material be turned into producer gas. Alaska also possesses tremendous latent hydro-energy in the many mountain streams and swift rivers.

Without going in to the controversy over the Alaska coal lands, and without espousing the cause of either those who are trying to open the coal to development under restricted conditions, under government supervision, by government-owned railways or under private enterprise, let it be stated that there are three salient facts that have not been generally disseminated, but which should be made known to the public:

(a) The experts of the United States Geological Survey estimate there are 21 million acres of coal land in Alaska containing approximately 150 billion tons of high-grade coal.

(b) The total area of coal land claimed by the men who discovered and attempted to develop the fields is 32 thousand acres.

(c) Those who attempted to segregate a portion of the coal measures in the Matanuska and Bering River fields paid to the

government \$320,000 in cash and took a receipt. The money was paid as the purchase price of the land, which the law provided should be ten dollars an acre. The land was not transferred to them, nor has their money been returned.

No criticism is offered on these facts, either pro or con, but they are matters of record and should be considered when the Alaskan coal question is discussed. However, it is not the province of this chapter to argue the merits of the coal contention either for the claimants or against them, but to present facts in relation to the various fields and to discuss their probable effect on the industries of Alaska and the commerce of the Pacific Coast states.

Perhaps the most important feature of the Alaska coal land, so far as the people of the whole of the United States is concerned, lies in the fact that these fields are about 1,500 miles closer to the Philippines than is the naval coal base at San Francisco; and approximately 12,000 miles nearer to the Philippines than is the present source of naval fuel supply in West Virginia. Coal for the Pacific fleet of warships and naval stations is brought around Cape Horn from the Pocahontas fields in West Virginia and landed on the Pacific Coast at a cost of nearly one hundred per cent. more than it would cost to transport the same amount of a slightly better quality of fuel from the Alaskan fields. And it should be considered also that much of the naval fuel transported to the Pacific Ocean is carried on foreign ships, which, in the event of a war, would be considered to be carrying contraband cargo, and, therefore, subject to attack. Should these foreign colliers be waylaid and destroyed while a war was in progress on the Pacific Ocean, the United States warships would be left fuelless and absolutely helpless. For this reason, if for no other, the Alaska coal fields should be opened to development as quickly as possible.

The difference in the cost to the government in buying coal

in Alaska and in West Virginia and transporting it to the Pacific is probably sufficient to cover the cost of construction of a new battleship every year. It is estimated by competent engineers that the minimum saving would be approximately \$1,000,000 annually.

So far as the conservation of the Alaska coal supply for future generations is concerned, let it be stated that in the process of transporting coal from the Atlantic to the Pacific an amount of coal equal to twenty-two per cent. of the tonnage shipped is consumed in the boilers of the vessel that carries the cargo. There are approximately 70,000,000 people on the eastern side of the Rocky Mountains as against 20,000,000 on the western side. Therefore, the coal measures of the eastern states will become exhausted before those of the Pacific Coast, and indubitably the time will come when coal will have to be transported from the Pacific to the Atlantic, unless some other form of energy be invented in the meantime. There can be no conservation of natural resources in burning up twenty-two per cent. of eastern fuel in transporting it to the West and later burning up twenty-two per cent. of western fuel in transporting it to the East.

In the steel industry also, the effect of the opening of the Alaskan coal fields will be felt severely. There is an abundance of iron ore on the Pacific Coast, but no available coking coal — or rather coking coal of a quality that will “stand up” in an open hearth furnace. It is cheaper for the western people to pay freight on steel manufactured in the eastern states than to pay freight on coke to manufacture the steel on the Pacific, because coke is a bulky, and therefore costly, material to carry, and besides that, it disintegrates and deteriorates in the process of transportation.

Alaska, or parts of it, as has been pointed out, is a cold country, and Nature clearly intended that the people who in-

habited the territory should use the fuel which she placed there for them. It certainly never was intended that they should be compelled to import their fuel from Canada at a cost of upwards of \$1,000,000 per annum more than it would cost to mine the fuel that lies in their own back yards.

There can be no doubt that when the facts about the Alaskan coal situation become known, the fields will be opened. They will be opened to furnish fuel to the American navy, and soon thereafter there will be many big smelting centres in Alaska. It is probable that steel manufacturing will be commenced, and it is reasonably certain that a city about the size of Butte, Montana, and another about the size of Scranton, Pennsylvania, will be established in Alaska, somewhere adjacent to the coal and copper fields.

These towns most probably will be Cordova and Seward. Within one hundred miles of Cordova lies the great Bering River coal fields. Within two hundred miles of Seward are located the great Matanuska coal measures. Surrounding each are countless millions of tons of smelting ore in varying degrees of richness and diversification of mineral.

The development of those coal fields will place half a million people in Alaska within five years. This will increase the annual trade with the North from \$50,000,000 to \$500,000,000.

The steel trade will be revolutionised, for instead of paying \$20 a ton freight on steel from Pittsburg — the original cost of steel many times repeated — the steel goods will be manufactured on the Pacific Coast. Seattle's population will increase to a million of people, and along the shores of Puget Sound will be a number of small steel manufacturing towns.

The opening of the coal fields will cause the building of hundreds of miles of railroads in Alaska, which, besides furnishing a means of transportation for the commercial and precious ores, will open up a tremendous agricultural district.

According to Alfred H. Brooks, chief of the Alaska Division of the United States Geological Survey, and a member of the Alaskan Railroad Commission, the Bering River and Matanuska fields furnish the only known source of high-grade fuels near the Pacific Ocean, but the recent discovery of a small quantity of bituminous coal near Spokane, Washington, may in after years affect the Pacific Coast market. Whether the field discovered near Spokane is sufficiently large to give it commercial importance yet remains to be determined, and from the fields of the North, for the present anyway, must come the high-grade steaming and coking and anthracite coals needed by the rapidly growing population of the Pacific seaboard states. Unless they are utilised, the manufacturing and smelting industries and the United States navy on the Pacific must largely depend on foreign fuels, except as coal may be brought around Cape Horn from the fields of Pennsylvania and West Virginia, or until the completion of the Panama Canal, when the route will be changed.

Alaska's own need for high-grade fuels for smelting and other purposes can be supplied only from the Alaska fields, unless it be transported for many thousands of miles. The cost of transportation of fuel from the mines on the Atlantic Coast or from Australia or from the inland fields of China to Alaska, prohibits their use in the North, if used for the purpose of smelting any but the very highest grades of ore. At present the high-grade ores of Alaska are transported to Tacoma for reduction, and in the process there is necessarily a heavy waste. The highest grade copper ore, for instance, yields an average of probably 35 per cent. copper. This means that the ships' cargoes contain 65 per cent. of gangue or waste material, and thousands of tons of low-grade copper, such as is mined in Arizona, Montana and Michigan, is thrown on the waste dumps.

While there is an abundance of good coal in the Bering River

and Matanuska fields, it is nevertheless true that certain portions of these fields are badly faulted, and the coal is crushed to such an extent that it cannot be marketed in its present condition. It also is true that a large amount of this coal is of a friable nature, that is, it gradually disintegrates into small particles or "slack" when exposed to the atmosphere. The crushed or friable coal ultimately will have commercial value when briquetting machines are installed, but it has no present commercial value, and will have none until the solid coals are mined to so great a depth that the cost of extraction will be as great as that of briquetting. The fabulous values placed on some of these coal claims by irresponsible people who are ignorant of the facts are extremely ridiculous.

The solid coals of Bering River and Matanuska fields are the highest grade fuels in the United States. This has been proven not only by tests of small samples made by members of the United States Geological Survey, but by a bulk test of nearly one hundred tons burned in the U. S. battleship *Nebraska*.

According to estimates made by members of the United States Geological Survey, by Falcon Joslin and other engineers competent to form opinions on the subject, coal from either the Matanuska or Bering River fields can be landed in Puget Sound ports at less than five dollars a ton. Coal mining in Alaska presents no difficulties that have not been met and overcome in other places. The climate is no more severe than that of Pennsylvania, and the water transportation problem already has been solved.

The Bering River field can be opened from a number of different points, and, despite statements to the contrary, it is nevertheless a fact that the Copper River and Northwestern Railroad does not pass any point that is nearer than forty miles from these fields. A branch line, however, has been surveyed, and in the event of patents being granted to some of the

claims on this field in the near future, a line to connect Cordova with the field doubtless will be constructed.

Some of the claims are so situated that the coal can be excavated and laden in barges moored in the Bering River, and by this means, transported to tidewater. This latter condition makes the control of the field by the railroad an impossibility.

The Matanuska field lies two hundred miles from tidewater at Seward, and when opened to development the fuel will be hauled to the coast for shipment on the Alaskan Northern Railroad, seventy miles of which has already been constructed. Should the Alaska Northern route prove impracticable, an entrance to the field can be gained by building a spur from the Copper River and Northwestern Railroad at Chitina, and landing the coal at Cordova. This fuel will be used not only in the local market afforded by the quartz mines of Valdez and Seward, but a large quantity will be brought to Pacific Coast ports further south in competition with the fields of West Virginia and Pennsylvania, to be used in the form of coke at the Pacific Coast smelters.

Because Alaska coal can be landed on Puget Sound at less than five dollars a ton, the following figures on the present Pacific Coast prices for high-grade coke and coal are significant: Special grades of coal which come from the Eastern fields command fancy prices — blacksmith coal \$11 to \$12 and anthracite \$15 to \$20 a ton. Coke, in the Pacific Coast states, is sold with slight variations either way, at the following prices: San Francisco, furnace coke, \$9 to \$10; gas coke, \$7 to \$8; Oregon and Washington coke, \$7; Belgian coke, \$11.

The Pacific Coast and territories, including Hawaii and Alaska, use annually about 4,500,000 tons of coal, about 200,000 tons being consumed in the form of coke. Recent discoveries of large bodies of smelting ores on the Western Coast, will soon cause a great increase in demand for coking coals and the

smelting industry is destined to increase at tremendous speed.

When new steel mills are established, as they soon will be, the amount of coke used on the Pacific Slope will increase to 1,000,000 tons per annum. At present, however, the market conditions are about as follows:

Without competition, furnishing coal to northern towns, mines, southbound ships, et cetera, Alaska has a market for 120,000 tons of coal annually. Under the present conditions it would be absolutely impossible for other fields to compete in this market.

Under competition strongly favouring Alaska, there is an annual market for 350,000 tons for hard coal, and under even competitive conditions a market for 1,000,000 tons of coal can easily be found in the fuel used by steamers entering Bering Sea, the coal burned in the northwestern section of Alaska, in California ports, in the trans-Pacific steamships, in the coal used by the United States navy on the Pacific and in the blacksmith and anthracite coal used on the Pacific Coast.

The opening of the Alaska coal fields will enable the government to keep a fleet of battleships on the waters of the Pacific and give employment to thousands of men engaged in coal mining and other industries. These miners will furnish a market for the agriculturists who will go to Alaska as soon as conditions warrant.

CHAPTER XIX

THE REINDEER AS A CIVILISER

Philanthropic work results in establishing nucleus of tremendous industry—Reindeer can be raised for market more cheaply than cattle and grazing ground is unlimited—Animals become important factor in food and transportation problems of territory—Convert poverty-stricken Eskimos into industrious, thrifty race.

A FEW years ago when the price of meat in the United States began to soar so high that it scarcely could be reached without the aid of an aeroplane, the suggestion was made that the swamps of Florida and other southern states be stocked with hippopotami and mammals of similar character, the flesh of which is not only toothsome, but nutritious.

The scheme sounded wildly fantastic, of course, but for some time it was regarded as a probable means of reducing the high cost of living. The idea died out as impracticable, and it generally was conceded that there was no method by which the depredations on the public purse by the so-called meat trust could be frustrated.

Few people realised, and many yet have failed to realise, that in Alaska there rapidly is being builded a meat industry that is destined to become a most important economic factor in the affairs of the beef barons.

The Alaskans, in many parts of the territory, solved the meat problem by eating reindeer. At the present writing reindeer steaks and chops are served in the best hotels in Seattle and other western cities at prices that compare more than favourably with the tariff on cuts of beef and mutton.

Reindeer meat is more succulent and nutritious than either beef or mutton. Every portion of the reindeer is as tender as the tenderloin of beef, and its flavour is delicious — somewhat of a cross between beef and mutton, with just a faint suggestion of venison intermingled. In the Hotel Washington, one of the best hostelries in Seattle, where a porterhouse steak costs about \$2.00, a cut of reindeer meat is served at 75 cents.

Stretching from the northern bank of the Yukon River to the Arctic Ocean is the greatest reindeer grazing land in the world. The number of deer which this land will support is almost incalculable. The caribou is a wild reindeer, and it is certain that where the wild ones can subsist, so also can the tame ones. Dr. Grenfell, the Labrador missionary, furnished the information that the country north of Hudson Bay will support 10,000,000 of these animals, and this government supplied him a few female deer to form the nucleus of the herd. The Russian government will not allow any more to be sold.

The introduction of reindeer into Alaska was the result of a suggestion made by M. A. Healey, captain of the revenue cutter *Bear*. The idea was adopted by the Education Bureau, in response to a petition filed by Dr. Sheldon Jackson. Lieutenant E. P. Bertholf, in 1893, made a trip across Siberia to the eastern coast, purchasing a number of deer, which later were shipped to Alaska across Bering Strait. In all 1,280 deer were imported between the years 1902-06, and their breeding was placed under the supervision of Laplanders, who taught the natives how to handle and raise them. The purchase of the reindeer, like the purchase of Alaska, was regarded as a wilful waste of public funds, but from these few deer, the herd now numbers about 35,000, and in the meantime they have converted the natives who own them from an impoverished to an affluent people.

Besides those killed for their own use last year, the net in-

come to native deer men from animals slaughtered and sold for market was \$42,216, divided among 460 native owners. When it is remembered that despite the number killed for meat each year, the reindeer herd doubles every three years, it readily will be seen that this industry has latent possibilities.

There are now forty-seven herds of reindeer in the territory, more than half of them being owned by the Eskimo herdsmen. Regulations governing the control of the herd were adopted by the Interior Department in 1907, and worked out by W. T. Lopp, chief of the bureau in Alaska, whose twenty years' experience with the natives qualified him to get the best results.

Nobody realised that the first deer imported were destined to become the nucleus of a tremendous industry. It was desired to advance the civilisation of the natives from the hunting to the pastoral stage and to provide a food supply for them to take the place of the seal and whale blubber and the wild caribou, which had been driven so far north that to many of the natives they were inaccessible. It is now estimated, by men who have studied the reindeer business, that within twenty years a herd of at least 2,000,000 domesticated, prime animals shall have been accumulated in the territory.

Reindeer can be raised for the market more cheaply than cattle. They thrive on tundra wastes where a goat or other animal would starve, and there are more than 300,000 square miles available for grazing lands. The reindeer digs beneath the snow in winter and eats the moss, and in summer eats grass and foliage. Like cattle, they fatten on the summer range and grow poorer in the winter.

The reindeer formerly was a wild caribou, having been domesticated by the natives of Lapland centuries ago. Frequently wild caribou are seen in the reindeer herds, and the government recently has established a colony of natives who will experiment in the domestication of caribou fawns. It is estimated

there are 3,000,000 wild caribou ranging on the barren lands of the Mackenzie River, and there are many thousands on Nunivak Island. There also are many large herds in the vicinity of the Beaver River.

While I have misgivings as to the reindeer ever becoming to the musher of Alaska what the camel is to the traveller on the deserts of Australia and Africa, there certainly no longer can be any doubt as to the animal's usefulness as a source of food supply.

The reindeer is a good pack animal, under certain conditions, but, in the presence of dogs, he is what might justly be termed "a little flighty." I have a distinct recollection of starting, many years ago, from Nome to Candle Creek, three hundred miles distant, with an outfit that was to have been drawn by reindeer. I had been told so much of the many advantages possessed by these animals over a dog team — their ability to feed themselves on the moss, and hence the advantage of having to carry no food supply for them, of their speed, their docility and general tractability — that I decided to dispense with the faithful dog team that had done me good service on many former occasions; that had shared with me the hardships of the trail and the contents of the "grub-box."

We loaded the outfit on the sleighs, in the back yard of a saloon, and everything was going merrily, until a pack of wolf-dogs came into vision. The appearance of the canines was immediately followed by several streaks of reindeer splitting the atmosphere across the tundra, and my dunnage was scattered all the way from Nome to the top of Anvil Mountain.

In a temperature of about thirty degrees below zero, but moderated somewhat by the warmth of the deer driver's profanity, we gathered the outfit up in several different pieces, and some of it never was recovered. I had regarded myself as being very proficient in the use of swear words, but, after lis-



Photo by Lomen Bros.

HYDRAULIC MINING ON THE PIONEER COMPANY'S GROUND AT NOME



REINDEER ARE USED FOR PLEASURE RIDES BY WHITES AND NATIVES. REINDEER RACING IS BECOMING ONE OF THE POPULAR PASTIMES IN ALASKA

tening to that deer driver's vocabulary, I felt that I had been deceiving myself and was only the poorest kind of an amateur. Also it caused me to change my similes in expressing degrees of profanity, and thereafter I substituted "swear like a deer driver" for other forms relating to dog mushers, oxen drivers, mule skinners, and West Australian teamsters.

This was my one and only attempt to use the reindeer as a means of transportation. But prospectors, who have driven them in both summer and winter, have informed me that, when the animals are away from the towns and the dogs, they make the ideal beast of burden. They are tractable and easily trained, and there never is any worry about their food supply. They are good travellers, easily covering thirty and forty miles a day across country where no trail has been broken for them. They rapidly become accustomed to their drivers, and, if treated with ordinary kindness, show an animal-like reciprocation, frequently coming to the tent and begging mutely for little tid-bits from the camp table.

Being indigenous to the country, Nature seems to have provided them with a foot especially adapted to traversing land covered with deep snow. They have wide feet, hollowed out underneath, and as they do not sink deeply into the snow, it is thought that the pressure of their feet on the snow surface, forms a cushion that prevents them from sinking in after the manner of a horse or other hoofed animal.

While the foot of the caribou or reindeer does not in any respect resemble that of the camel, it operates in a somewhat similar manner. In Australia I frequently have seen a train of camels walk across a desert and beat down a trail almost as hard as asphalt, while a man on foot would sink to his knees in the loose, ash-like sand.

The moose is enabled to overcome the snow conditions by the long legs with which it has been endowed. In this con-

nection it is worth noting that short-haired dogs brought to Alaska, sometimes grow, during the winter season, a heavy coating of fur-like material beneath their scant natural covering.

Plymouth rock and other fowls with legs as innocent of covering as their mouths are of teeth, in their second winter in Alaska, grow feathers clear down to the points of their toes.

It frequently happens that the wild caribou associate themselves with reindeer. The native herders near St. Michael in 1908 lassoed a buck caribou which had intermingled with the reindeer. By placing a cow-bell around the animal's neck the herders ascertained that it remained with the reindeer about six weeks. The male caribou is larger, more slenderly built, and has longer legs than a buck reindeer. The same year the native herders shot two large caribou bucks found grazing with forty female reindeer which had strayed away from the main herd about three weeks previously. The caribou put new blood into the reindeer herd and doubtless improved the breed.

Wolf-dogs have been a serious menace to the management of the herds and also a cause of friction between those natives who own reindeer and those who do not. In recent years the natives have imported collie cattle dogs from Scotland and in some cases have crossed them with malamutes. These canines soon become accustomed to deer, the products of the cross-breeding apparently retaining all of the gentleness and much of the sagacity of the collies and very little of the wolfish propensities of the malamutes.

Although timber wolves have not bothered the reindeer herds, excepting at Illianna Bay, there is some danger that the deer herds will not much longer be immune from attack by these destroyers of forest life. During the past ten years bounty hunters in British Columbia have driven the wolves into South-eastern Alaska, where they have practically annihilated the great herd of red-tailed deer which formerly ranged that sec-

tion. A law providing for the payment of a bounty on wolves in Alaska was passed by Congress in 1912, and it is probable that bounty hunters will drive these predatory mammals farther north, where they will raid the reindeer herds which at present are left undisturbed. Night herding of reindeer is necessary all through the year in Siberia because of the wolves which infest that country. Should the wolves in Alaska be driven from their present habitat, similar methods for combating them will have to be adopted. The reindeer will not scatter during the winter months, but it is necessary to watch them at night from October till May. Constant watching is necessary during the time there is no snow on the ground, as deer are inclined to wander far afield during this period, and it is more difficult to herd them during the mating season, September and October, than any other time. Under ordinary circumstances one man and two or three well-trained dogs can herd one thousand reindeer without difficulty.

With the exception of a little foot-rot, which occasionally makes its appearance, there is no disease among the reindeer of Alaska at the present time. When the symptoms of this plague of nearly all herbivorous animals are noticed, the natives effect a prompt cure by driving the herd to drier pasturage.

The principal practical uses of the reindeer to date have been to furnish food and clothing to the natives and white settlers and as a means of transportation. Living solely on moss, in the winter, the reindeer does not make an ideal draft animal during this season and cannot keep up the strain of travel longer than six or eight consecutive days. In this respect the deer is not unlike the horse that is fed on straw and hay only. When the reindeer becomes plentiful enough that relays can be secured every four or six days from herds along travelled routes, the animal will become an important factor in the transportation problems of the country.

Experiments in training fawns for draft animals are now being conducted, the subjects of the experiments being taught to eat cereals and other solid foods as well as moss. There are at present about 25,000 sleigh reindeer in Alaska. A most striking illustration of the animals' use as a source of food supply was made apparent in 1897, when a number of deer were driven from the coast of Bering Sea to Point Barrow, and there slaughtered and consumed by more than 400 starving whalers whose ships had been caught in the ice the previous summer.

The total number of Alaskan reindeer is distributed in herds among twenty-eight stations—eighteen of these being owned by the government and ten by the church missions. The Lapland reindeer herders own more than three thousand deer. Several natives, who received payment in reindeer for work performed at the government stations, have become independently rich. Mary Antisarlok, known as the "reindeer queen, of Alaska," has a very large herd at Golovin Bay; while Ablakok, who lives at Cape Prince of Wales, carries the proud title of "reindeer king" of the section in which he resides.

When the industry was placed under the direction of W. T. Lopp, he immediately installed an endless chain system of rewarding the apprentices, which has proved successful. Under this plan a boy is taken to the station and taught the methods of herding. His apprenticeship lasts five years, during which time he receives \$355 in food and clothing and upon his discharge he is given a bonus of from six to ten reindeer, and their increase during this term, with which to start a herd for himself. It is estimated that within ten years every Eskimo family in Alaska will be represented by one or more reindeer owners.

During his apprenticeship each native is instructed, in keeping accounts, in marketing of reindeer, and in other practicable

methods connected with the industry; and also, before he can become an owner of deer, the novitiate must become proficient in the branches of elementary reading, writing and arithmetic.

Although the natives are not slow to adopt most of the vices common to the white man, "reindeer rustling" has not yet become popular amongst them. The natives are inherently honest and the Biblical injunction against stealing is rarely broken.

As the owner of sixty or seventy deer the graduate native apprentice gets an abundance of outdoor occupation which is congenial to his propensities, and he soon becomes a factor in providing a safe, sane, and certain, support for future generations of his race, and a man of standing in the community. This result costs the government \$355. As a practical industrial feature of public school education there is nothing known in the world that compares with it. It is attracting the attention of educators in all civilised countries.

The plan of making the native of Alaska self-supporting and independent has many advantages over the system of sending Alaskan native children to the government Indian schools at Carlisle and Chemawa for a period of from eight to ten years, at an approximate cost of from \$1,600 to \$2,000 — if they are able to live that long in the environment of the school — to be returned to their own country, discontented, and in every way totally unfitted to take up the burden of life. The Alaska Indian who has been given a college education is one of the problems of the territory. Lazy, dissolute, and shiftless, and thinking themselves too high caste to associate with their own people, they become outcasts and pariahs on the various communities.

The government does not sell any female reindeer to either white men or natives, but at present is planning to distribute all of the deer of its remaining herds during the next three or four

years. Stations will be established on the Aleutian Islands, and on Kodiak and Nunivak Islands. The various missions in Alaska have been loaned herds of one hundred reindeer for a period of five years, at the end of which time they have been able to build up herds of their own and to repay the government loan. The Moravian Mission at Bethel, on the Kuskokwim River, owns a herd of nearly three thousand reindeer, and many other missions own herds composed of more than one thousand animals. Each year the surplus male deer are killed and eaten by the native families or sold to white prospectors.

The missions take native apprentices, teach them the best methods of raising the animals and, at the end of their period of apprenticeship, pay them their salary in reindeer. Lapland reindeer herders, who were brought to Alaska to teach the best methods of reindeer raising, are given the same privileges as are the missions. Already some of the members of this hardy northern race have accumulated herds of nearly one thousand.

The young Eskimos take to herding like goslings to water. They regard the work, not as a labour, but as a recreation. They readily learn to harness and drive the deer, watch and train the fawns, and to throw the lasso. Lariat throwing, in fact, has become one of their favourite forms of amusement, and they are far more expert at it than are the Laplanders, who knew nothing of the uses of the "rope" before coming to America.

As the deer grows a new set of hair each fall and discards it again in the spring, a new method of marking had to be devised. In lieu of the branding iron a small aluminum button is fastened to the ear of each deer. All private owners and herders have their individual marks which must be registered with the local superintendent of the reindeer stations and also at Washington. While there is no likelihood of "deer-

rustling" becoming prevalent in Alaska, the brands are nevertheless necessary for identification purposes.

The skins of the reindeer are used for many purposes but principally for making clothing. Reindeer parkas and sleeping-bags have excellent qualities for resisting moisture and cold, and are a boon to mail-carriers and mushers who sleep outdoors in the freezing temperature of winter. The hair of reindeer is not merely a hollow, tubular structure with a cavity extending through its entire length, but is divided off into numerous cells, like so many miniature water-tight compartments in an ocean-liner. These cells are filled with air, and their walls are so elastic and have such strong resistance, that they are not broken up during the process of manufacture or by swelling when wet. The cells expand in water and a person clothed completely in reindeer skins is carrying a life belt, sufficiently buoyant to prevent him from sinking should he fall into a lake or river.

Already the reindeer industry has placed many of the natives above want and most of the missions in Alaska have become not only self-supporting, but are gradually gaining a position whereby they will be enabled to give a part of their revenue to similar institutions. The reindeer grazing grounds in Alaska are practically illimitable and, within a very few years, there is no doubt that the government will be in a position to throw the industry open to whites and natives alike.

The reindeer is important to the prospector, not only as a source of meat supply, but as a means of transportation throughout the country. With ten head of reindeer, which number one man can manage single-handed, each packing one hundred pounds of food and supplies, prospectors will be enabled to make journeys to places that under other conditions are inaccessible.

Statisticians figure that within a very few years, Alaska will

be shipping annually to the United States, from five thousand to seven thousand carcasses, and thousands of tons of delicious hams and tongues. The day is within measureable distance when big reindeer ships from Arctic and sub-Arctic Alaska will roll into Seattle and other western cities as the great cattle trains now hourly enter Chicago and St. Louis. Long before the end of the present century, Alaska, from her cattle, reindeer, and agricultural resources, will be helping to feed the two hundred million men and women, whom, it is estimated, will then be living within the border of the United States.

The creation of this industry in the far North was not accidental, but the result of patient study and personal sacrifice. Much time and thought have been expended upon it and many hardships and privations have been endured by those connected with it, and among the many deserving a word of credit, William T. Lopp, head of the Bureau of Education, is a prominent figure.

CHAPTER XX

THE ALASKA SEAL HERD

Treatment of fur resources by United States Government forms one of the blackest marks in its history—Unfairness shown to pelagic sealers—Ruthless slaughter decimates greatest fishery wealth ever possessed by any nation—Killing prodigal to the point of recklessness—Habits and characteristics of valuable mammals—Raising fur for the market.

SAILING a clumsily-constructed craft through a North Pacific fog, Gerassium Pribilof, a Russian navigator, heard a strange, bellowing sound, not unlike the barking of a band of dogs. He anchored, and when the fog cleared, he saw for the first time the islands which bear his name. It did not take him long to discover that the barking emanated from male fur seals, the skins of which, at that time, were very highly prized by the Chinese, whose infinite patience had devised a plan for plucking the long hairs that protrude from the silky, glossy fur.

Pribilof made his discovery in the summer of 1786, at which time he was employed by the Lebedoff Company, one of the many firms of traders which, at that time, were levying tribute upon the natives and fighting among themselves for control of the fur industry. Pribilof named the island St. George, after the ship in which he sailed. After landing his otter hunters, he returned to Unalaska. By the following spring it was generally suspected that he had discovered a good thing, and when he weighed anchor, several navigators hoisted sail and followed.

During the first season Pribilof's hunters killed more than

2,000 sea otters, more than 40,000 seals and accumulated nearly 15,000 pounds of walrus ivory. The invading horde of hunters killed with wanton recklessness, hundreds of pup seals and young otters being sacrificed to their greed. The Russian-American Company, by Imperial ukase, later chased out all the small traders, but there was no surcease of the slaughter. Some idea of the size of the seal herd at that time can be gained from a statement made by officials of the Bureau of Fisheries to the effect that, between 1801 and 1804, 80,000 seal pelts were accumulated in the Company's warehouses on the islands. Practically all of these skins were spoiled by improper methods of curing and were destroyed.

The discovery enabled Russia to re-open its trade with China, from whence the Romanoffs had been driven by the energy and better facilities of the British and Dutch. Alexander Baranof, who became governor of the territory, developed the trade into a most lucrative one, and extended it to California and the Sandwich Islands, as well as to China. But the amount of real profits from the business probably never will be known — although, perhaps, the information might be found buried in the records of the Russian-American Company, now reposing in the archives of the State Department, at Washington, D. C.

When the territory was purchased by the United States, the most ardent advocates of the ratification of the treaty made no mention of the commercial value of these islands, and Senator Sumner made no reference to them in the great speech which decided the destiny of Alaska. Hayward Hutchinson, representing a number of San Francisco capitalists, bought the goodwill and buildings on the islands owned by the Russian-American Company. He reached the Pribilof Islands in 1868, a year after the purchase was completed, and there met Captain Morgan, of Connecticut, who, representing some eastern capitalists, casually had drifted to that region for the purpose of

looking over its possibilities with a view to investment. They combined forces, thereby making the record of carrying out the first "gentleman's agreement" in the territory. Through the efforts of their financial backers, Congress, in 1869 passed a law declaring the Islands to be a reservation, and prohibiting any one from killing fur seals except under certain restrictions. The following year — on July 1, to be exact — the Islands of St. Paul and St. George were leased to the Alaska Commercial Company for a period of twenty years.

Lying to the north and west of the first island of the Aleutian Chain and three thousand miles west of the mainland, the four little rocky islands, which, doubtless were thrust up from the sea by the subterranean seismic disturbance in bygone centuries, are completely isolated. For many years, none but the representatives of the government and of the company holding the lease was permitted to disembark there. Both of the larger islands are composed principally of lava, large chunks of pumice stone and other volcanic deposits.

While there is some doubt about the amount of money made by the Russians from the seals on the islands, there is no doubt about the immense profits reaped by their American successors. An official paper, published in 1903 by the U. S. Treasury Department, places the value of fur seals taken from the islands at \$35,000,000, and another document, published in 1910, estimates the values, up to that time, exclusive of the pelagic yield, at \$50,366,757. This amount, added to the value of other Alaskan marine products, such as walrus ivory, salt-water furs, whalebone and fish, brings the total aquatic yield up to the magnificent value of \$193,562,601 — roughly about twenty-seven times as much as was paid for the entire territory. And the manner in which these resources have been treated by this government forms one of the blackest marks in its history!

It was in the late '80's or early '90's that the term "seal poachers" fitted frequently in the columns of the newspapers and magazines. A pelagic sealer became in the public mind necessarily a thief and a pirate, just as, in the present day, the men who discovered and gave to the United States 21,000,000 acres of coal land in Alaska, have become perjurers, land thieves, grafters, liars and cheats, all because they asked the privilege of buying 32,000 acres of the land, which they found in the wilderness, at \$10 an acre, as the law provided.

True, the international tribunal, sitting at Paris in 1903, decided that the pelagic sealer was neither a poacher, a thief, nor a pirate, and that Uncle Sam's previous contentions as to Bering Sea being an American and Russian lake were absolutely wrong, but by that time the legitimate pelagic sealer was ruined in purse and reputation. Never has he been able to secure justice from the Government nor from the public.

Did the great body of the American people receive any benefit from this? On the contrary, it, too, has suffered from the mishandling of the seal question.

In a recent report of the United States Bureau of Fisheries this statement is made:

"The Alaska fur seals constitute the most valuable fishery resources that any nation ever possessed. It is a little less than a national disgrace that the herd of four to six million seals which came into our possession when Alaska was acquired from Russia, and has been in our charge ever since, should have been allowed to dwindle until to-day it numbers less than 150,000 of all ages."

The writer visited the Pribilof Islands in the summer of 1910 in company with Governor Walter E. Clark, and was shown by an agent pictures of millions of seal living on points of land that had not a vestige of vegetation upon them. The same places, at the time of my visit, were covered with a thick,

heavy, rank grass and many wildflowers. Before the government commenced to "mine the seals under a leasing system" the pumice rocks in that locality were worn smooth and round by the movement across them of many mammals. To-day those rocks are covered with moss and buried in vegetation.

For generations the fur seal business of the world has centred in the hands of a little group of Londoners. At the head of that group is the fur-buying firm of C. E. Lampson & Sons, established some 75 years ago, and continuing since then in its commanding position. This firm is said to handle fully ninety per cent. of the fur seal skins of the world. Through its business connections, it has immense power financially in both Great Britain and the United States.

By far the greater portion of the world's supply of fur seal comes from the Pribilof group of islands. Here the seals have their "rookeries"; here their young are born and raised through the trials of babyhood. In winter the herd abandons the islands and slips away into unknown seas. Early in the spring the animals appear in droves far off the coast of Oregon, gradually swimming northward, arriving at their summer home in Bering Sea about July 1.

Promptly on the discovery of the islands by Pribilof, the organisation of that parent of conservation forces which do not conserve — the Russian-American Fur Company, was organised, and the Russian Government granted the monopoly of the Seal Islands, under approved conservation lease, to the corporation.

Killing was prodigal to the point of recklessness in the early days, but in 1803 restrictions were placed on the annual catch. From 1803 to 1805 no killing whatever was permitted on the Island of St. George and from 1803 to 1807 the Island of St. Paul was absolutely closed to the butchers. Conservative killing continued for some years, but gradually greed got the

upper hand, until in 1830, the company found the herd threatened with extinction, and grew still more conservative. But, even at that, in 1834 actual count showed that there were only "8,118 fresh young seals, males and females together" left alive on St. Paul; so the following year it was decreed that there should be no killing whatever. The herd was studied and fully protected until 1838, when 10,000 were killed with no perceptible harm to the herd. The number was gradually raised until 60,000 were killed in 1843, and this was considered normal.

When the United States took over the territory in 1867, there was a riot of slaughter at first, 268,000 being killed in 1869. At this point the world's fur trade began to take a hand in the matter and on March 3, 1869, the rookeries were set apart as a reservation. The next year the leasing system was adopted in the United States, and the monopoly of taking seals on the islands was granted to the Alaska Commercial Company for twenty years, the company agreeing not to take more than 100,000 skins a year; to pay \$55,000 a year rental and two dollars tax on each skin.

To see that the company did not violate the law the government stationed an \$1,800-a-year treasury department employé on the islands!

In 1890 the United States granted a lease for the next twenty years to the North American Commercial Co., a subsidiary of the Alaska Commercial Company, at a rental of \$60,000 a year, a revenue tax of two dollars on each skin, and an additional charge of \$7.62½ on each skin.

Under the first lease the bookkeeping methods of the Treasury Department showed a net profit of \$5,738,724, although this is one of those purely fictitious government profits, taking no account of overhead charges, extra cost of the naval and revenue cutter patrol and other high expenses.

But not even Government bookkeeping could save the appearance of the lease for the second twenty-year period. That plainly shows a net loss of \$2,247,554.

As an actual fact, if allowance be made for all the elements that should be charged into the safeguarding of this monopoly, a showing of a net loss of many millions would result. And we haven't got even the seals left.

On June 1, 1910, the government undertook to manage the seal rookeries itself. During each of the two seasons since it has killed about 12,000 skins, a total of nearly 25,000. These have been sold, as ever before, to the same old London buyers, for there is the market. The trade was perturbed when it was first proposed that the government stop the leasing policy, and sought to prevent action by Congress, but did not succeed. After all, it has not been so badly hurt as it feared. The profits to the general government last year amounted to \$388,189.44. Under the leasing system the number of seals killed would have given the government a profit of only \$132,107.

Then certain persons and organisations, including the Camp Fire Club of America, began nagging the government and alleging that Uncle Sam has been killing pups as well as mature male seals in order to supply the market demands. It is only fair to say that while the Camp Fire Club proceeded from the best of motives there are indications that some of the objections made by others to the administration of the seal islands were formulated not for the worthiest purpose.

During the forty years of leasing the United States Government contentedly and repeatedly declared that its lessees were honest, that the government agents on the islands were infallible and that Uncle Sam was not being cheated in the slightest degree, either in count of seals killed or amount of tax paid. The sublime "faith that passeth all understanding"

characterised the attitude of the government officials throughout. For years only one \$1,800-a-year agent stood between it and fraud. The record shows there was no fraud. In 1892 and 1893 the annual catch, as officially reported, on the islands, fell to about 7,000. That was just after the new lease, with the higher royalty charge, went into effect.

In 1889, when the first lease was about to expire, the official catch reported was 102,617.

But the contention of the government, throughout the period of the lease, as expressed by its officers, ever was that the gradual reduction in the size of the herds was due, not to reckless killing on the rookeries, but to the pernicious activity of the pelagic or open-sea sealers.

From time immemorial the Indians of the Washington and British Columbia coasts were accustomed to going out in their canoes after the migrating seals in the spring and harvesting skins. About 1885 the Indians of Neah Bay, Washington, who were above the ordinary in intelligence, outfitted their own schooners and engaged in the business.

Presently white men began to follow their example. Schooners were outfitted at San Francisco to engage in the occupation. It was a hardy, dangerous life, containing every element of sport and fairness. The ordinary schooner would carry from six to eight hunters armed with shot-guns as a rule, though a few carried rifles. Each hunter had a boat and two boat pullers.

Far off shore, in some instances as far as 600 miles — for the north-bound seals cover a wide extent of ocean — when the weather served, the boats would be cleared away and spread fan-shaped over the water, ranging seven or eight miles from the parent craft. And when a storm came up, or a thick, North Pacific, "pea-soup" fog suddenly shut down, not always did they win their way back. Many were the tragedies

of the pelagic seal trade. Not a season passed but that some boat's crew were lost. There is the tale of the *Sophia Sutherland's* crew and a host of others of like character, grim reminders of the hazard of the life of the seal hunter, a life that has passed away.

The hunters naturally were picked men. The seal is a shy animal and the only target he presents in the water is a head about the size of one's fist. Rising and falling on the sea it is an elusive mark, particularly when the platform from which the hunter had to aim was also most unstable.

But some one — of course, not the lessees — told Uncle Sam that this was a most vicious practice, that the pelagic hunters killed more females than males and that they were solely responsible for the reduction of seal life on the islands. Accordingly Uncle Sam frowned severely on pelagic sealing. The Indians first were put out of business and then, by new regulations, the industry was made so difficult for Americans that most of them went to British Columbia. There the shrewd Canadians had already embarked in the sealing business.

Russia, on the western side of Bering Sea, has a duplicate group of seal rookeries, though not so large as those on the American side. When the pelagic sealers began to pursue the seal into the broad stretches of Bering Sea, the Bear and the Eagle had conference together and determined that while they couldn't reach the pesky Canadian on the Pacific, that they would try to bluff him out of the sea.

Accordingly, in 1886, the doctrine was proclaimed that Bering Sea was a Russian and an American lake and that the ordinary law of the three-mile off-shore limit of jurisdiction didn't "go" there. They announced that any sealer who entered that sea was a poacher and subject to arrest and the confiscation of his property. Naturally one might have expected that the British lion would roar over this. True, he did roar,

but the sound was as mellow as the cooing of a suckling dove.

As related previously, the fur seal business is one loaded down with trade agreements, and the big London operators had their arrangements with both the American and Russian lessees. So the British protest was but mildly perfunctory.

Then arose the term "seal poacher." Any pelagic sealer—whether he remained outside of Bering Sea or went into the "grave-yard of the Pacific"—was blazoned to the world as a poacher. Schooner after schooner was seized. One was taken even as far south as Neah Bay, Wash., and held as a seal poacher.

The only possible poaching would be an attempt to land on the rookeries and take the seals there, but in the ten years of the greatest activity of the pelagic sealers not more than four such attempts were made.

According to the theory of the American and Russian Governments—a theory held to this day—the only proper, sportsmanlike and humane way to kill seals is to wait until the animals have hauled themselves out on the beach, a sanctuary to which they resort for breeding purposes, where they have no chance to get away, and then, when the poor, harmless animals are absolutely defenceless, bravely and intrepidly beat them to death with a club.

Open sealing was a disgraceful, unsportsmanlike butchery! The ethical way to kill seals was to cut out the bulls—and if a few cows slipped in accidentally, perhaps, it didn't matter much—drive them across the hills to the slaughtering grounds, making them carry their own skins to the shambles. What matter that they came ashore to raise their families—for the little seals have a voice and manner that is not unmindful of little children—there were dividends to be paid, and those dividends builded not one school, nor one church, nor one library, nor made one home in Alaska the happier or more prosperous.



HERDS OF REINDEER IN WINTER PASTURE—BEGUN AS A PHIL-
ANTHROPIC WORK, THE GOVERNMENT, IN ITS REINDEER
INDUSTRY, FOUND A LUCRATIVE INVESTMENT



SEAL COLONY ON ST. PAUL ISLAND AND BABY SEAL CRYING
PITEOUSLY FOR ITS MOTHER. NO FEMALE SEAL BUT ITS
PARENT WILL SUCKLE IT

The bodies of the animals were left to rot at the places where the skins were taken, to breed pestilence and disease. The smell from this decaying seal meat, is one of the most unpleasant sensations that my olfactory nerves ever have experienced. It can be felt — or “smelt” — for miles, and while I will not vouch for the truth of the statement, I have heard it said that navigators, when sailing through a heavy fog, steer their course to St. Paul Island by the smell. I often have been told of things which “smelled to Heaven,” and think that St. Paul Island, after a seal killing, must be one of them. Part of the carcasses, in 1911, were salted down and shipped in the United States revenue cutters to the starving natives of other islands. The odour of carcasses left on the ground in previous years, however, remained.

Russia seized numerous American schooners sealing on the Russian side, imprisoned their crews and confiscated their vessels. The United States seized many more Canadian and American schooners on the American side and meted out similar treatment.

In 1892 it was decided to submit the British protest against the American and Russian theory of a closed sea — a *mare clausum* — to international arbitration. To prepare for this, American agents went to Alaska and elsewhere and took a vast number of affidavits to prove that 90 per cent. of the seals killed in the open sea were females frequently with young. Certain willing and mercenary scientists, making but a cursory examination, agreed to back up these statements. The British commissioners — Baden Powell among them — followed up the trail of the American agents and secured a great mass of counter affidavits, in many cases from the same men. When these counter affidavits were presented at the tribunal sitting at Paris the following year, the American representatives were confounded.

The United States lost its case. The tribunal held that Bering Sea was not a lake and that the seizures had been unlawful. However, as a result of the sittings, the United States, Great Britain and Russia entered into an agreement not to seal within sixty miles of the rookeries. Thereafter the three nations enacted legislation to put the pelagic sealer out of business. Thus the industry, so far as those three nations are concerned, perished.

But Japan was not a party to the agreement and could seal up to the three-mile limit about the rookeries. Accordingly the pelagic sealing industry became a Japanese monopoly. And what a ruthless monopoly! Undeterred by any law of nations or humanity, the Japanese raided rookeries on both the Russian and American sides, laid off the rookeries to kill the seals swimming out to feed and conducted themselves as veritable pirates. With a gentleness remarkable in contrast with the treatment accorded in the past to American sealers, the United States government has been most considerate of the Japanese freebooters. True, it confiscated their ramshackle schooners when they were caught within the three-mile limit, but it treated the crews with all honour and paid their passage home.

The seal mother will suckle no pup but her own, and the sight of hundreds of little seals, hungry and emaciated, flopping around amongst the herd in search of the mother to nurture them, nuzzling at all the females and being driven off, filling the air with strangely human-like, baby cries, is one of the most heartrending things imaginable. The mothers, which have gone outside the three-mile limit to feed, have been killed by the Japanese poachers, and the forfeiture of the mother life means the forfeiture also of not only the life of the baby she left at home in the rookery, but also of the life of the baby yet unborn that she carried with her.

Counts of the dead pups on the various rookeries were made in 1908 and 1909. In the latter year 3,786 baby seals were found dead and 125 in a starving condition. In October, 1908, more than three thousand dead pups were found on St. Paul Island alone. It was impossible to determine the death rate on St. George Island, because the blue-foxes, which have their habitat there, eat the bodies of the young seals immediately after death. Furthermore, according to the report of the Bureau of Fisheries, the bodies of such pups as die early in the season have almost disintegrated by October, and cannot be seen when the count is made late in the fall. The increased mortality among the young seals doubtless was caused by increased pelagic sealing.

The seal is an amphibious mammal and is polygamous in its habits. Immediately upon the arrival of the herd at the breeding grounds, vicious battles are fought between the developed male seals for the domination of the harems, and several small colonies, composed of many female seals and one lord of each harem, are formed. This leaves a large number of robust young male seals to form colonies of their own, from whence they cast envious—and, perhaps, amorous—eyes at the female seals in the harems; and, once in a while, they make a raid, when the lord of the harem is not looking, and endeavour to steal some of the females. If they are successful, they then lay the foundation for a harem of their own.

The bull seals remain on the island to domineer over their various households and multitudinous better halves, and the bachelor seals remain in the hope that they will find an opportunity to make a foray on the colonies and steal some of the sultan seals' wives. Bloody battles between the lords of the harems and the bachelor seals frequently occur, with the result that many valuable skins are spoiled by the rending teeth of the competitors. The mother seals swim out to sea in search

of salmon and other food, and there meet death at the hands of the Japanese poachers. As a majority of the seals killed at sea are females, the effect of the pelagic catch is felt directly on the breeding herd. Practically all of the young seals found dead on the islands show that they have died of starvation.

During the latter part of the term of the lease held by the Alaska Commercial Company, the Japanese poachers occasionally raided the islands, and, a few years ago, in a battle fought between the Japanese invaders and the natives who police the island, eleven Japanese were killed. In the summer of 1910, a Japanese schooner was seized and confiscated by the United States revenue cutters, and a crew of forty-nine poachers were taken to Valdez and jailed for a period of two months. The same year, while I was at Dutch Harbor, five of eleven Japanese, who were in prison and awaiting deportation, made their escape into the hills, but finally were captured. One of the escapes was a carpenter of the Japanese schooner and the captain of this vessel requested U. S. Deputy Marshal W. B. Hastings to loan him a knout or cat-o'-nine-tails with which he intended to administer to the Nipponese "chips" a public flagellation. The federal officer could not speak Japanese, but by means of the sign language and some slight assistance from an interpreter, gave the captain to understand that if he wanted to do any flogging, he would have to perform his castigation outside of the three-mile limit.

In 1911 Uncle Sam held conference with representatives of Russia, Great Britain and Japan, and it was agreed they jointly should patrol Bering Sea and that no sealing of any kind should be permitted within sixty miles of the shore of any territory controlled by any of these countries. Under this treaty each nation was permitted to kill seal in its own territory.

Congressman William Sulzer, of New York, in order to

make the treaty effective, introduced a bill providing that a certain number of the bachelor seals on the Pribilof Islands be killed each year under government supervision, and that every ship, of whatever flag, carrying sealing gear, found within sixty miles of any port of either American, British, Japanese or Russian territory, immediately be confiscated and the crew and officers punished by fine and imprisonment, or both. The shameful manner in which the herd had been depleted was drawn to the attention of Congress and a fight was made to stop sealing of any kind for a period of years. When the bill passed the House, it provided that all of the surplus bachelor seals be slaughtered and their skins sold by the Government.

But about this time a number of Alaskans were in Washington endeavouring to induce Congress to make appropriations for the construction of roads and trails in the territory, and these Northerners suggested that Uncle Sam might, with perfect propriety, put back into the territory in road construction that money which was derived from the country's resources, through the seal herd. Immediately objection was raised in the Senate.

"You can't improve on Nature," said these Solons; "and the way to preserve the seal herd of Alaska is to stop killing seals."

Somebody, of course, pointed out that the cattle rangers of the Western States annually slaughter a large number of male bovines for market, and suggested that the same principle might, with advantage, be applied to the seal herds of Alaska; and some naturalists had the audacity to suggest that in this manner a magnificently profitable business could be builded up. But the thought that the profits thus derived should be expended in Alaska seemed to dampen the enthusiasm of the senators on this proposition, and when the bill finally was passed and signed, it provided that no seals shall be killed on

the Pribilof Islands until the expiration of the year 1922.

The history of the sealing business to date, amongst other things, shows that, following the award of the Paris tribunal, the British Government demanded and collected from the United States full damages for the unlawful seizure of Canadian schooners by American revenue cutters. The Canadian "poachers" were vindicated and paid. The United States Government made Russia pay damages to the outside limit to the American sailors seized by Russian warships.

But those American sailors seized under precisely similar circumstances by their own government! What became of them? They never have received a cent. Broken in fortune, shaken of nerve, dim of eye, aged and heart-sick, many of them facing a grave in Potter's Field, they have been beseeching Congress for years for permission to let the United States Circuit Court for the Ninth Circuit hear and adjudicate their claims, but their pleadings have been in vain.

Until 1908 it was contended by naturalists that the fur-seal never could be raised in captivity. Hundreds of pups had been taken from time to time, but always they died a few weeks after their capture. Although apparently suffering greatly from hunger, the young mammals refused to eat. Judson Thurber, a boatswain on the United States revenue cutter *Bear*, who had sailed Alaskan waters for twenty years and had many times made an effort to rear seals to maturity, accidentally discovered the secret of success. Poking his hand into the mouth of a pup seal, he discovered that the tongue was fastened to the lower gum by a ligament. He broke the connecting tissue and immediately the young seal began to eat. He tried the same experiment on another pup with the same result. They were fed condensed milk and granulated fish.

Thurber soon discovered another remarkable peculiarity of the seal: namely, that they have a decided antipathy to any

man who uses tobacco. They are the antithesis of the black goat which acts as the ship's mascot and is a voracious chewer of the narcotic weed. Not only will they refuse to eat a fish that has been handled by a tobacco smoker, but they frequently will attack him.

The fur seal is almost as sinuous as a snake, and its teeth are sharp as needles. While it generally is playful, it sometimes suddenly stretches out its body like a striking adder and makes a vicious snap at anybody within reach. In handling seals Thurber soon found that it was much safer never to go near them unless his hands were protected with thick canvas gloves.

In 1909 Thurber brought two seals to Seattle and was instructed by the Treasury Department to turn them over to the Bureau of Fisheries at Washington. By this time the animals had learned to follow him around the ship. Whenever Thurber came from below decks they would begin to bark, and if he had a fish in his hand they gave every manifestation of delight. The seals rarely snapped at their captor, and he handled and petted them with impunity. The animals were a year old when they reached Washington. The morning Thurber was leaving he received a hurry-up call on the telephone from one of the attendants at the aquarium. The seals had escaped from their tank and were waddling around the building. The caretaker attempted to capture one of them and received a severe bite on the hand. Until the seals became acquainted with their new keepers, they were left severely alone. It was discovered that the seal has no preference for salt water. Two tanks, one of salt water and one of fresh, were placed side by side, and the animals gambolled and swam in the fresh water, going into the other tank very rarely.

In the summer of 1911 Thurber, acting under government instructions, constructed a big wooden tank on the revenue

cutter *Bear*. Later he captured ten young seals on Pribilof Islands. By splitting their tongues away from their lower gums, every one of them lived and was landed safely in Seattle. Two of these animals were placed in Woodland Park, at Seattle, and the remainder were forwarded to Washington, where they were taken over by the Bureau of Fisheries.

Thurber seems to have established beyond any question that the fur-seal can be raised in captivity, but, so far, there is no evidence that this can be done at a profit. A healthy young seal eats about two pounds of fish per day, at an average cost of ten cents. At this figure it costs \$109.50 to sustain a seal for three years, the time when its skin is most valuable. The raw skins are marketed at an average of less than fifty dollars each. Perhaps, if they were placed in a large lake from which they could not escape and where a food supply of fish could be raised, the business of seal farming could be conducted at a profit.

Should fashion decree that seal skin garments shall be the mode, the price of pelts — because of the suspension of killing on the Pribilof rookeries — will greatly advance during the next ten years. Fox farming is conducted in Alaska, and it may be that, within a few years, seal farming will be added to the many industries of the territory.

CHAPTER XXI

MODERN WHALING ON NORTHERN PACIFIC

Driven from their own Country by new laws, Norwegian whalers invade American waters—Bowhead whale hunting in its decadence—Supplanted by modern methods which afford most exciting sport in the world—The tragedies and phantom ships of the Arctic.

ALTHOUGH for many years whaling in Alaska has been a source of great profit to those engaged in it, it is only within the past two years that the industry has been developed to its fullest fruition. In former times it was the custom for sailing vessels to enter the Arctic Ocean where they remained for two or three years before making a full catch. There only the bow-head or "right" whale is taken. The baleen, or bone which hangs, fringe-like, from the upper jaw and is used as a strainer through which to eject water taken into the cave-like mouth together with shoals of fish and sea animalculæ, has great commercial value, the price running as high as three dollars a pound.

The development of steam whaling on the Pacific Coast is largely due to political activity in Sweden and Norway, in which countries for more than a century the industry had been conducted successfully and profitably. A few years ago a wave of conservation swept over Scandinavia. It was contended by the fishermen that the whales drove the herring close in shore where they easily were trapped in seines, and that the killing of the giants of the sea allowed the herring to swim into deeper water where the catch was more difficult. Legislation prohibiting whaling was enacted and many whaling companies

were driven out of business in all Scandinavian waters.

With millions of dollars invested in ships and gear they sought a new field of operation. They tried the seas around the Orkney Islands and north of Great Britain without success. They sent their ships to the African coast and the southerly portion of the Indian Ocean, in the vicinity of Tasmania and Australia, with a like result. Then they sought the west coast of South America where paying stations were established. It was not, however, until the adventurous crew penetrated the North Pacific Ocean in the vicinity of the Aleutian Islands, that a highly profitable field was found. Here the humpback, sulphur-bottom and grey whales never had been hunted, the endeavours of the whalers in that region having been confined to the bow-head — the leviathan that yields the bone-like material that is used in making stays for high-grade corsets, joists for ladies' collars and the various arts in which a tough, yet elastic, substance is required.

The Alaskan whalers, up till a few years ago, had no knowledge of the value of the humpback and sulphur-bottom. The latter is the largest mammal on "earth and its waters" to-day. All of the varieties yield the excellent oil which, deodourised under a recently invented process, makes the finest toilet soap, and spermaceti, used in compounding beauty creams, is one of the by-products. Occasionally the hunters are awarded with rich prizes in ambergris. Fertiliser is made from the residue after the whale oil is extracted.

Like the discoverer of the Pribilof Islands, the pioneer in this new whaling field soon found that he was to have many competitors. The first factories established made large profits, and as a result nearly twenty companies commenced operations in 1911 and 1912, with their headquarters at Seattle. Two of these firms operate floating factories, while another company owns the great ice-breaking ship, *Kit*, which has been used in

Norwegian waters with great success. This vessel plies the ocean adjacent to the Aleutian Islands and an effort was made by the residents of Nome in 1912 to secure the enactment of legislation that would allow this foreign-bottom ship to sail between American ports during the winter season and carry mail from Dutch Harbor to Nome, through five hundred miles of ice, thereby keeping the roadstead open to passenger and other vessels. The necessary permission to violate the coastwise maritime laws was refused by the Department of Commerce and Labour, and a bill providing for a special concession to this particular vessel was defeated in committee.

Beyond the fact that the whale is the biggest animal extant, little is known about it. It shows evidence of having lived, in prehistoric ages, upon the land, at which time it probably crawled after the manner of an alligator or other saurian. When cut open the four legs which have become atrophied from disuse plainly can be observed. It suckles its young like a cow, but where the calf is born has never been learned. Naturalists place the average span of life for a whale at a thousand years.

Hunting the whale, if the hunter is lucky, is a profitable business, a single "right" whale sometimes yielding bone to the value of \$10,000. It is said by those engaged in it to be the greatest and most exciting sport in the world. The old method was to harpoon the large mammal from a dory or whaleboat, a float being attached to the end of the harpoon line, but that plan of capture is now carried on only by the natives of the far northern coast and by a few of the white bow-head hunters.

Harpooning these obese animals from a small boat is a dangerous occupation, for not always does the leviathan of the Northern waters submit to the harpoon without resentment; sometimes it turns upon its pursuers and with one flip of its

mighty tail, smashes the boat to splinters or throws it high in the air, precipitating its tormentors into the icy water. Unless rescued quickly, their death is certain, for few men can withstand the freezing temperature of the Arctic Sea. It is probably for this reason that few Eskimos learn to swim. They believe that if they fall into deep water there is little hope of escape.

In latitudes north of Kotzebue Sound, where the natives engage in whale hunting — not only as a means of securing a supply of blubber for food, but also for the purpose of collecting "bone" which they sell to whalers and traders — it is customary to place a number of ornaments and strangely marked pieces of ivory at the head of the skin boat from which they do their harpooning. Also the shaman, or medicine man, of the tribe chants a few songs and performs weird incantations. According to the native belief, these precautions give them good luck and an immunity from accident. These natives have a gift of crude artistry and tell the stories of their adventures in rude sketches etched in ivory.

The modern method of hunting the whale is to fire the harpoon from a machine gun, not unlike a small cannon, placed on the forward deck of a ship or tug. The harpoon carries an explosive bomb, which not only gives the hunted animal a severe sensation of shock, but also causes the barb-like instrument to open after it reaches a point deep in the beast's flesh. As soon as the animal is struck by one of these bombs, it sounds — that is, it dives to the sea-bottom for the purpose of determining the depth of the water in which it is located. That it dives with terrific speed is evidenced in the fact that quite often after the whale is captured and dragged to the ways at the station for dissection, it is found to be bleeding freely from wounds caused by the rock and gravel which became imbedded in its head when it struck the floor of the sea.

After sounding, the wounded mammoth returns to the surface and blows skyward a thin column of water through the holes in the top of its head. Then it makes a mad dash through the sea, lashing the water to a foam with its colossal tail and dragging the tug or other craft along behind it. Orders are issued for full speed astern, but the puny strength of a gasoline motor or light steam engine is as nothing compared to the propelling power in the tail of a wounded whale. For miles the race continues, with the gigantic animal getting weaker and weaker. From time to time as the wounded whale arises to the surface to "blow," another harpoon is shot into its quivering flesh, and the succession of concussions finally exhausts the monster, which, however, always can be depended upon to put up a game struggle for its life.

Not infrequently the hunter of whales witnesses a furious battle between a "killer" whale and a swordfish. The "killer" whale is the most vicious animal in existence. It swims with the speed of a torpedo, is endowed with tremendous strength, the tenacious courage of an enraged lion, and the savage ferocity of a wounded tiger. This murderer of the seas is said to be able to kill anything that swims. Even a polar bear will refuse to give it battle, and whalers, Caucasian and Eskimo alike, leave it severely alone. It attacks on the slightest provocation and sometimes provocation is not necessary to arouse its brutal and destructive instincts. It fights with teeth and tail, and in its conflicts with the swordfish it curves and turns for fresh attacks with lightning-like rapidity.

Many are the tales of vicissitude that have come out of the Arctic; many are the lives that have been sacrificed in this industry—some of them wantonly. Bowhead whaling is a hard life, full of danger, hardship and privation. The ships stay out for two and three years, and not always do they get back with a full crew. Shocking tales of the brutality of the

officers and crews of these vessels have been told, and many of them, unfortunately, are only too true.

"There's never a law of God or man runs north of fifty-three," is a favourite quotation of whaling captains. With crews, oftentimes recruited — maybe shanghaied — from the slums of the waterfront, the captain must be a law unto himself and is compelled to rule his men with a hand of iron. When the vessel goes into winter quarters in the Arctic, where the sun is not seen for a period of six weeks, all of the arms, marlin spikes, capstan bars and everything that can be utilised as a weapon is carefully removed to the officers' quarters on the ship.

Isolated from the world, in an inhospitable climate, living on the coarsest food, without recreation, and, worse than all, without the light of the sun, the sailors soon become discontented, irritable, quarrelsome and ready to mutiny, with or without justification, at a moment's notice. Frequently mutinies have occurred with disastrous results, as many silent and lonely graves on Herschell Island and the mainland near the mouth of the Mackenzie River testify. Many of these emeutes, it is to be regretted, were distinctly justifiable.

The first bowhead whale was captured in Bering Sea in 1848. A few years later there were nearly 100 vessels in Arctic waters, and as the animals were driven farther and farther North the hunters followed.

The first disaster to the Pacific whaling industry occurred in 1865 when the rebel cruiser *Shenandoah*, commanded by Captain Waddell, entered the Oskosh Sea and began to destroy the fleet. Some of the ships were driven into the ice floes, from which not all of them returned. Many vessels were destroyed, four were bonded by the rebel commander, and two hundred and fifty of the sailors, taken from craft that had been scuttled or set afire, were sent back to the United States. The

loss in ships and whalebone was estimated at more than \$2,000,000.

The next big disaster occurred in 1871 when a fleet of thirty-seven ships were caught in the ice. Several of the vessels were driven by the floes onto the shoals near Icy Cape and wrecked. One was crushed to splinters between big bergs and two were carried away in the solid drifting fields. Early in the fall the whole ice pack began to settle towards the north-east, carrying the thirty-seven imprisoned vessels with it. A consultation of captains was held and it was decided to take to the whaleboats. Twelve hundred men and a few women embarked in these small craft, dragging them across the hummocks and rowing them across the channels of open water. After suffering much hardship and privation, the party succeeded in reaching the southern edge of the pack where they were taken aboard the seven ships that had not been caught. They reached Honolulu without the loss of a single life. Two of the missing ships were found the following year, one was saved, the other had been crushed like an egg-shell between gigantic ice-floes. The remaining vessels never were seen again. The loss was more than \$3,000,000.

One of the greatest tragedies of the North occurred in 1876. The ice came down early in August and thirty vessels were imprisoned. It was decided to make for the shore in whaleboats, but seventy men refused to acquiesce in this agreement, preferring to trust their lives to the chance of the ships getting clear the following spring rather than facing death on the blizzard-swept ice plain. Those seventy men and thirty ships disappeared in the great maw of the Arctic and never a trace of them has been seen since. The crowd of men and three women who started for shore endured fearful hardships, many of them dying on the way.

By agreement it had been decided that those who could not

keep up with the procession — hauling the boats across the ice, rowing them across the open leads and using them to bridge crevasses — should be left to their fate.

I never shall forget the horror of the tale of that trip as it was told to me by an old Arctic whaler named Brody, who was a mate on one of the vessels. He became snow-blind and guided himself by tying his hand to a buckskin thong, the other end of which was made fast to one of the boats. With the party was a boy about twelve years old to whom Brody was much attached. The little fellow, although demonstrating superb courage, soon became exhausted. For many weary miles he was carried by his snow-blinded comrade, who stumbled and staggered over the ice hummocks, partly from semi-blindness and partly from exhaustion.

In one of the brief respites taken by the party Brody laid the little fellow down to rest, but, blinded by the glare of the snow, he could not find him when the journey was resumed. Before he had gone one hundred yards he heard his little companion, deserted and left to die alone on the wintry waste, crying for help. He tried to wrench himself from the life boat to go back, but others prevented him. Then he realised that — snow-blinded as he was — if he left the party he never would be able to win his way back, and, with the child's cry for help ringing in his ears, he continued on his painful, stumbling way. He said he heard that soul-racking cry in his sleep for many years afterwards.

Weary, exhausted, nearer dead than alive, with many of their number missing, the party reached the land four days after leaving the ship. Every hour of the journey had been filled with horror. Later the wind blew the ice from the shore and they made their escape to Point Barrow where they remained till the following spring, and there one of them, in 1911, was still waiting, in the hope that he will find some

trace of the thirty gallant vessels and seventy shipmates they left behind, never to see them again.

Stories of phantom ships held fast in the ice are brought down from the northeasterly shores of the Arctic from time to time by Eskimos, and it may be that some of the vessels, with the frozen forms of many men lying on their decks, are still floating hither and yon at the mercy of wind and tide in that circling ice field, more than six thousand miles in circumference, that surrounds the North Pole.

Another disaster occurred in 1897, when more than forty vessels were cut off by the ice at Point Barrow and several of them were reduced to kindling by the impact of colliding ice fields. Government aid was sent, Captain E. P. Bertholf, Dr. S. J. Call and Lieutenant D. H. Jarvis, officers of the U. S. Revenue Cutter, *Bear*, driving reindeer from St. Michael to their relief. Prior to the arrival of the rescuers, however, the whalers had killed a number of caribou, which, with the supply of food already on hand, would have been sufficient to sustain them till the following spring.

In connection with this disaster Captain George F. Tilton made one of the most remarkable journeys in the annals of Alaska travel. With a dog team, he mushed from Point Barrow to Katmai, a distance of more than 3,000 miles, over an unbroken trail, and then rowed eighty miles across Shelikof Strait to Kadiak, in order to send news of the disaster to the civilised world.

The life of the whaler in the early days was one of constant danger, and conspicuous among the dramatic events in whaling history is the looting of a schooner by natives at Cape Prince of Wales and of their punishment a few weeks later when they attempted to seize the whaling brig *William H. Allen*, commanded by Captain Giley. Nearly one hundred natives boarded the brig from skin boats, and in the fight on the decks

that followed their attempt to seize the vessel, more than half of them were killed. One white man fell a victim to knife stabs and three others were wounded. When the natives realised their plan to capture the ship was doomed to failure, many of them jumped overboard and were drowned.

Another disaster in which three ships were lost occurred in 1896.

The day of the whaler in the Arctic is passing. The great bowhead whale slowly is disappearing. It has been driven farther and farther north. Perhaps in the ice around the north pole, which ships dare not enter, and where the explosive bomb of the white man and the harpoon of the native cannot disturb its peaceful existence, it has found a haven of refuge.

The industry of bowhead whaling, in which millions of dollars have been invested, and millions in profits have been made, is in its decadence. It is being replaced by the newer industry, in which the products of the formerly despised humpbacks and other varieties are converted into marketable commodities.

CHAPTER XXII

RAISING FUR FOR THE MARKET

Fox breeding a precarious, yet profitable industry—Going into voluntary exile, sometimes for more than a year at a time, ranchers lead life of solitude—Interesting animal farm on Middleton Island—Others on Yukon and Tanana Rivers—Raising foxes on Copper River—Fish, birds, seal and potatoes form Mr. and Mrs. Reynard's bill-of-fare.

TO the person who finds charm in solitude, fox farming in Alaska is an ideal, and, sometimes, a profitable vocation. "Man is a gregarious animal," Disraeli said, but he certainly did not have the fox farmers of Alaska in mind when he made this generalisation.

Although not misanthropists, these fox farmers lead a life of perfect isolation. They are ruralists in the extreme degree. "The world forgetting, by the world forgot," they are the most exclusive people on earth. Neighbourliness, companionship, fraternity, to them are unknown quantities. The "company" on their islands is generally limited to two persons, and in some places the fox rancher lives absolutely alone. The social conditions, opportunities for interchange of thought and other amenities of life certainly are not extensive. The nun who takes the veil leads a life of gay social intercourse compared to the fox farmers of the North. Theirs is a life of loneliness, ostracism, exile, desolation.

There are many fox ranches in the great country north of British Columbia, both in American and British territory, but the greater number are situated on the isolated islands of the Aleutian Peninsula, where ships call but once a year or so and sometimes not that often; where newspapers a year or more

out of date are read with eagerness. There are fox farms on the Yukon River, a small one on the Tanana River; and a ranch, upon which it is proposed to raise marten for the fur market, has been located on the headwaters of the Copper River. Marten farming, however, may truly be said to be in its infancy. In fact, it is only in the experimental stage.

One of the most interesting fox farms in Alaska is located on Middleton Island, about 125 miles from Valdez. It was established more than twenty years ago by P. D. Temple and subsequently passed into the hands of Thomas Vesey Smith, who was known as "Middleton Island" Smith, in order to distinguish him from "Kayak Island" Smith, a trader who lived near Controller Bay. This farm is now owned by Tim Marcum, and is operated by a native and his wife.

The island is seven miles long and approximately a mile and a half wide. "Lonesomeness" nor any other word adequately can describe the conditions that there exist. At widely separated intervals—perhaps of two or three years—whaling vessels call, and, once in a while the ranch is raided by Japanese poachers. About ten acres of land has been cultivated in potatoes, most of which are fed to the foxes. These tubers, together with rice, corn meal, fish and seal oil during the winter, and birds' eggs during the summer, form the food supply for the two hundred or more foxes that live in the burrows.

Except in December, when the trapping is done, the animals are tame. As each Mrs. Reynard raises from five to seven young foxes each year, only the males are killed. The skins are in prime condition when the animals are one year old. The pelts in 1912 brought an average price of forty-two dollars each. But for the depredations of Japanese poachers, who slaughter males and females alike, there now would be a large number of animals in the burrows. These forays are always timed to

coincide with the absence of the caretaker, who must leave the island once a year to obtain provisions.

The island is the summer nesting ground of countless thousands of sea-birds, and these add variety to Mrs. Reynard's daily bill of fare. Foxes apparently find the eggs of gulls a great delicacy, for they hunt for them assiduously. Gulls, themselves, by the way, prey on the sea-parrots that nest on the island.

During a comparatively recent volcanic eruption on the Alaskan peninsula, when the top was blown off Mount Katmai, the island was covered with volcanic ash to a depth of about four inches, but this did not damage the potato patch nor do any apparent injury to the fox crop.

Along the waterways in the interior of Alaska, fox farming is developing rapidly, a large number of skins being marketed each year. More fortunate than the islanders, the men engaged in this coming industry in the interior, always catch their crop after it grows. They manage their farms on much the same principle as a poultry farm is conducted. Unlike the foxes on the island, the interior Reynards are not compelled to "rustle" most of their own food, and, therefore, are more easily caught when the season for harvesting the fur commences.

George Armstrong has a small fox ranch near White Horse, on the Yukon, where he raises the silver-grey and black species. Sometime ago one of the blacks escaped by gnawing a hole through the wire netting enclosure. Its skin was worth from five hundred to seven hundred and fifty dollars. A reward of two hundred dollars was offered for its return alive, and promptly every Indian and many palefaces went on a still hunt. A young Indian sighted a bushy tailed animal several miles down the river, and set traps for it, freely distributing thereabouts the kind of food it had been accustomed to eating. The fugitive never had been compelled to depend on its own resources

or initiative and had not developed the cunning of its brothers who live on the islands and in the forests. It fell an easy victim to the wily Indian.

Silver-grey, black, red, Arctic, and red and silver-grey cross foxes are being raised on the Tanana and Yukon in many places, in some instances the animals being cared for by the women of the family, like so many chickens.

On St. Paul and George Islands fox farming has been carried on under government supervision for many years. When the seals were taken over by the government, Uncle Sam fell heir to the foxes that live on the islands. The net proceeds from the skins in 1910 was approximately twenty thousand dollars.

For many years past fox trapping has been a source of revenue to the natives on Pribilof Islands. In 1909, there was a large falling-off in the number trapped. This was not due to a diminution of the herds—if that word “herd” correctly may be used—but to an invasion of millions of sea-quail, which, apparently suffering from some plague of disease, fell upon the beaches in countless thousands or were washed up from the sea. The birds were devoured by the foxes, and so long as the migration lasted, it was impossible to induce the animals to go anywhere near a trap.

The foxes on these islands are fed salted cod and salmon, which they do not eat readily, unless a little seal-meat be mixed with it. Mrs. Fox finds that seal-meat adds piquancy to her menu, and frequently during the summer months, she makes a foray on the deserted pup-seals in the rookeries. Dead seal-pups are also consumed by the foxes. Mr. Reynard prefers killing his own food, and so long as the living young seals are available, during the summer months, most of the seal-meat left out for food remains untouched.

Foxes begin to change and lose their fur late in February



Photo by Dobbs.

BARROW ESKIMOS ABOARD UNITED STATES REVENUE CUTTER, WHICH VISITS THEM ONCE A YEAR



Photo by Dobbs.

WHALING STATION AT POINT BARROW, THE NORTHERNMOST POINT OF THE CONTINENT



Photo by Callaman.

WHERE SWEET PEAS GROW EIGHT FEET TALL.—A SKAGWAY GARDEN

and early in March, according to latitude and climatic conditions, and sometimes they become afflicted with mange. Should the weather become very cold after the fur has been shed, their ranks are decimated. Denuded of their natural protection, they have little chance to survive a northern blizzard.

The Pribilof Island foxes are caught in immense box traps, the best animals being saved for breeding purposes, and the balance killed for the fur. No male weighing less than ten pounds is killed. No lame, blind, or badly coloured fox is allowed to live. Many of the foxes on the island do not pass through the traps, and many of them have been seen without brands. These unbranded animals are bred in remote parts of the islands and they keep out of the paths of the Indian caretakers. The money for which the skins are sold is turned into a government fund and reimbursed in buying food for the natives living on the island.

The foxes on St. Paul Island, one of the Pribilof's, do not take kindly to hand feeding, and for this reason, their increase is not rapid. Salmon, sea-lion meat, and seal carcasses, are thrown to them from time to time, but few of them eat it. A scourge of disease killed many in 1903, and since that time the increase has been very slow.

Captain Otto W. Carlson, a former agent of the Alaska Commercial Company, is believed to have been the first to attempt the domestication of foxes. He leased an island near Unga, and for several years attempted to raise these animals for the fur. Silver fox skins at that time were worth as high as \$1,000 each. Carlson conceived the idea of raising them in captivity. He tried to produce the valuable silvery pelts by crossing white and blue foxes, but finally gave it up, and went in exclusively for the blues.

Because it cannot be imitated, the pelt of the silver-grey fox

has a remarkable value, the price ranging to as high as \$2,500 each. A pair of silver-greys for breeding purposes is readily saleable at \$5,000. Save at the tip of the tail, the colour of the fur is black, while around the hips is found the silver-grey band which gives the fur its great value. The hairs, at the root and tip, are black, but between these two points, it is grey. This vari-colouring produces the beautiful sheen which it is impossible for experts to imitate. The bidding on the London market at the four annual sales is always spirited when silver-grey foxes come under the hammer. Silver-greys are said to have been successfully raised on a fox farm at Wyoming, Ontario, by T. L. Bowerman, who expended many thousands of dollars before he achieved success.

P. D. Temple, about twenty years ago, commenced fox farming on Middleton Island. In 1903 he sold out to Thomas Vesey Smith, a former sea-captain, and his partner, Hans Germanson.

There is very little timber on the island, the total of developed trees being thirteen of the spruce variety. The island is covered with heavy grass, and, as in many other places in Alaska, wild strawberries, wild rhubarb, wild celery, salmon berries, and other fruits and vegetables, grow in profusion. Smith and his partner found a very small cabin on the island, which had been erected by their predecessor. Being a tall man, Smith cut a hole through the side of the shack to let his feet through when he stretched full length in his bunk, and then built a projecting covering. For two years they lived on the island, and then, to his horror and dismay, Smith discovered that his partner was afflicted with insanity. Insisting that somebody on the island, unseen by Smith, was trying to poison him, Germanson refused to eat. Later he believed that other sinister persons were lying in wait to murder him. Smith had a problem on his hands. He had to feed

the foxes, attend to the crops of potatoes, and the work of running the ranch. He was afraid to sleep for fear that his partner, who was developing homicidal mania, would do him bodily harm and thus imperil both of their lives.

After this fearful condition had continued for two months, Smith managed to attract the attention of a passing schooner by which he sent word to friends in Valdez, telling them of his predicament. Three months later help arrived. Germanson had become violent, and great diplomacy had to be used in inducing him to embark on the vessel bound for the mainland. He died a few months later at Juneau.

From that time Smith lived alone on the island, leaving it once a year in his Columbia River fishing-boat and going to Valdez for supplies. He usually left enough food to sustain his foxes for ten days. After passing a day or two in Valdez visiting friends, he would embark again for his solitary home in the North Pacific, where he would remain until the following year.

But Smith was not without his daily papers. On each annual visit to Valdez he secured a year's file of the Philadelphia Ledger, which had accumulated at the postoffice during his voluntary exile. He read one of these papers every morning after breakfast, and enjoyed it, he said, just as much as though he were back in the Eastern States and the news had been published that day.

Yet Smith's life was not without incident and action. On one occasion, he found on his return from Valdez, that the land whereon he was "monarch of all he surveyed" had been raided by a Japanese poacher during his absence, many of his foxes killed, and his home burned. Once he encountered a storm and was carried nearly a hundred miles out of his course. Another time he reached his island when the water was so rough that he could not land, and was compelled to go to the

island of Nucheck, fifty miles further north, and await the subsidence of the wind and sea.

Although of a kindly, genial, patient, good-natured, and even humorous temperament, Smith was an intensely methodical man. It might be added that he was of a retiring disposition. He laid out a routine of work for the entire year and followed it faithfully. After reading his morning paper, he carried food out to the foxes in one part of the island, and returned for lunch. He spent the winter afternoons fishing and seal shooting, the proceeds of his line and rifle going to help feed the foxes. His summer afternoons, when the island was covered with birds and when fox food was correspondingly plentiful, were devoted to the cultivation of his potato patch. Smith truly could have been accused of having "fallen into a rut." It seemed a strange trick of fate that a man who could endure the hardships of the life he followed for nearly ten years, should fall an easy victim to what at first was a trifling ailment. After selling his island, Smith emigrated to Puget Sound, contracted a severe cold, developed pneumonia and typhoid, and died.

Although the conditions by which he was surrounded were anything but desirable from a social viewpoint, Smith's life among his foxes was full of interest, and he talked upon the subject — when he talked at all, which was not often — interestingly and entertainingly. He made many experiments to improve the value of the skins, studying the breeding methods of cattle and sheep ranchers, and applying them to the animals he raised. He also made many experiments along new and original lines. The first of these ventures turned out disastrously.

When he took the island over it was stocked with grey foxes. Smith thought that by crossing these with the blue variety, he would be able to produce the silver-grey variety. The differ-

ently coloured animals, however, far from associating with each other on terms of amity, fought savagely on every conceivable occasion. A feud sprang up between them. It was a case of the survival of the fittest in muscle and cunning and in a very few months all of the greys had been killed off and a new dynasty of foxdom was established with blue as the national colour. Then internecine strife broke out. The conquering blues formed themselves into small colonies which were constantly at war with each other.

Smith's task of feeding them was a long and laborious one. Carrying a load of food he walked daily from one end of the island to the other. The animals soon came to know his whistle and later to time his arrival. As he came in sight they would rush out from their burrows, and for a short distance, trot along at his heels, barking like so many pleased dogs.

Each colony of foxes had a specific territory to itself, which had been defined by some unknown, but nevertheless immutable, form of self-government. The animals were careful not to wander from the range dominated by the colony to which they belonged, and every time a fox strayed into the domain of another colony, there followed a fight, with a resultant financial loss to Smith. Many of the animals, which burrowed near Smith's cabin, became very tame, playing in and around the domicile as would so many puppies. Several of them slept on Smith's bed, but being wary of their ever-ready, snapping bite, he never attempted to pet or stroke them.

In the summer when the island is the nesting place for myriads of sea birds, battles royal between the Reynard colonies are of frequent occurrence. The birds, like the foxes which prey upon them, establish colonies for themselves. The sea-parrots conceal their eggs by burying them in mud in one part of the island. The foxes living in that locality find their table always set. The guillemots build no nests, but

lay their eggs in the shelves and crevices in the sides of the cliffs. Frequently they carry their eggs between their feet as they fly from one part of the island to another. When Smith moved some of those eggs, the mother bird, returning from the sea, would not settle on some other guillemot's egg, but would search around for her own. But that is a digression.

The best branches of the Reynard family living near this guillemot settlement had an abundance of the material from which omelettes are made. The sea gulls make their nests in the long grass. One of the favourite pastimes of the fox colonists who there abided was hunting and birds'-nesting. Later in the season, when the young birds began to hop around, the foxes surfeited themselves with delicacies, which maybe they found to be an equivalent for the spring chicken and broilers so highly prized by humans. Like their kinfolk, the wolves, these slant-eyed, short-legged mammals, preyed upon every other species of wild life that their cunning could conquer.

The problem of the high cost of living for foxes never disturbed Smith's placid equanimity during the summer season. On one occasion during the trapping season, however, the food problem caused considerable difficulty. Not that there was too little food, but too much of it. Several dead whales had been washed up on the beach, and the wily animals would not go near Smith's traps. His yield that year was the lowest of any in his fox-farming experience.

The number of skins annually taken varied from one hundred and fifteen down to seventy-five. Overfeeding and the non-infusion of new blood, Smith declared, caused a deterioration of the stock.

Smith's experience on the island, had it been written, indubitably would have proven a distinct contribution to natural

history. It would have added much to the knowledge of the best methods of domesticating and raising fur-bearing animals. The caribou has been domesticated into the reindeer, and reindeer grazing has developed into one of the recognised industries of the North. Fox-farming, though beset with difficulties, in many instances has proved profitable, and that it will be developed into a more stable vocation is well within the realm of probability.

CHAPTER XXIII

ALASKA AS A NEWSPAPER FIELD

Pioneers of Newspaperdom among the vanguard to emplazon the glories and riches of the far North—Through difference in time often prints news before it happens—Editors must have physical ability—"The Eskimo Bulletin" one of the first newspapers published in Northwestern Alaska—Unique journalistic ventures.

ALTHOUGH the publication of newspapers in Alaska is about as unprofitable as this business usually is in the frontier countries and in the smaller cities of the United States, there are, nevertheless, some decidedly creditable journals printed and circulated in the territory. Many of the plants in the larger towns are equipped with the modern linotype and up-to-date engraving plants. In the larger cities of Alaska, skeleton telegraph dispatches, copied from the news disseminated by the Associated Press and other similar institutions, are received; and often it happens that the result of prize fights fought in the Central or Eastern States has been given to the reading public in Alaska—in point of local time—before the event took place. This is accomplished by the difference in time between the points of occurrence and publication. That is to say, when it is midday at New York, it is six o'clock in the morning at Nome.

Every gold stampede is followed by the appointment of a United States Commissioner and a deputy marshal, who are despatched to enforce the law at the new diggings and it is not long thereafter until some itinerant newspaper man and a printer or two make their appearance with a handful of type,

some paper, a pot of ink, and an old hand press, and commence the publication of a "Great Moral Enlightener." If the town does not "pinch out," these somewhat primitive plants are developed into more pretentious enterprises.

Turning out a newspaper in Alaska frequently requires an editor who is not a molly-coddle. As in other places, every man in the community knows more about the best methods of running a newspaper than the editor himself, and the moulder of public opinion in the far North frequently is called upon to exercise considerable physical effort and a degree of aptitude with natural weapons of defense in order to maintain his dignity and a proper standing in the community.

Captain Libby, a member of the Western Union Telegraph Expedition, published the first English newspaper in Alaska, on Sunday, October 14, 1868, at Grantly Harbor. In the absence of the printing press, the paper consisted of written sheets, bound together with bent pins, and its publication was continued for one year, under the name of *The Esquimaux*. The complete file of the paper was taken to San Francisco, where it was printed and distributed as a souvenir after the expedition had disbanded.

The first newspaper printed from type, in English, produced in Alaska, of which there is any record, was published at Sitka soon after the territory was ceded to the United States, and one of its early issues reports a mass meeting attended by a number of American citizens, who memorialised Congress and demanded the rights of full territorial government, which, by the way, was granted them in 1912. The owners of this paper expected that, under American occupation, there would be a large influx of population to Alaska, but they were grievously disappointed and, in 1871, sold the plant to Beriah Brown, father of the present Dean of the Seattle Press Club, who shipped it to Seattle, where it was used for printing *The Puget*

Sound Dispatch, the first daily paper published in Western Washington.

The Eskimo Bulletin was the pioneer paper of Northwestern Alaska where it was issued yearly from 1895 to 1900 by the Mission School at Cape Prince of Wales. The staff, according to the publisher's statement, was composed of W. T. Lopp, editor and publisher; Oo-ten-na, engraver; Ke-ok, I-ya-tung-uk and Ad-loo-at, compositors. Its columns were adorned with crude wood-cuts depicting whale, walrus and polar bear hunts, which were produced in the art department under the guiding hand of Mr. Oo-ten-na. The mechanical work, and probably a large amount of the reporting, was done by the natives. It contained no telegraphic or "outside" news, and there was a marked dearth of items pertaining to divorces and absconding bank cashiers, such as usually find their way into the front page of the metropolitan dailies. Still, this paper contained much interesting news, illustrative of the life and environment of the region in which it was published. Judging from the following item, which is quoted verbatim, one of the reporters had inherited some of the habits of the modern yellow journalist:

"Sok-wena, while herding reindeer, found a lynx behind a tuft of grass. Being unarmed, he whipped it with his lasso until it cowered at his feet, when he was able to give it a blow with his fist which crushed its skull."

Had this event happened on a Sunday afternoon in New York, when the gathering of news is always a problem, the story doubtless would have been good for a scare head on the front page the next morning.

Other items worth noting in the 1897 issue of *The Eskimo Bulletin* are:

"Soap is becoming an article of exchange at the Cape."

"The *Norwhal* (a whaling ship), tied up at the ice here on May 24, and gave us the news that McKinley was elected

and Corbett defeated." (The election took place nearly three years previously. Author.)

"Pik-u-enna shot a white bear in January."

"A small building boom struck town last summer. Three new buildings (above ground) were erected."

"Several whales were seen in the spring, but none captured. In January, April and May our natives were short of rations."

A "Special to the *Bulletin*," dated October 20, 1896, contained the news that Harry DeWindt, an English explorer, after having been deceived and annoyed for several weeks by Chief Kohora in Siberia had become disgusted and had given up his proposed walking trip across Siberia and returned to Unalaska on the Steamer *Belvedere*.

Another unique journalistic venture was the *Aurora Borealis*, the first issue of which was published at St. Michael, October 31, 1897, the mechanical work being done by a mimeographing machine. The subscription price, according to the published announcement, was one dollar the copy. Seal oil, gold dust, blubber, fur, ivory, and fish were exchangeable for subscriptions, ten of which were given for one porterhouse steak.

Early in 1898, *The Rampart Forum*, a small journal, was printed on a mimeographing machine at Rampart City. It carried advertisements, "grape-vine" telegraphic dispatches, all the local news of that region, and copies were at one dollar each. Sam Hubbard, Jr., of California, was the publisher.

Among the miners at Rampart at that time were Rex Beach, Jack London, Roy Norton, and George Howard Preston, all of whom since have distinguished themselves in the literary world, but none of them contributed to the columns of *The Forum*, except once when an indignant letter was written to the editor. Beach was the best man of the crowd at manual labour, and it was said of him that he could shovel

more gravel into a sluice box and chop more wood in a given time than any other man in the camp. Old prospectors in that region declare that a great workman was lost to the mining world when Beach laid down the pick to take up the pen.

The art of printing, except in remote and inaccessible places on the far frontier, has greatly improved in Alaska in the last ten years, and preparations are being made at Cordova to print and publish an up-to-date magazine. It will contain 175 pages, mostly articles dealing with Alaska subjects, illustrated with photographic reproductions of scenes and events in the country. A number of well-known writers, some of whom have made their mark in the literary world, will be among its contributors.

The following is a full list of the newspapers published in Alaska early in 1912, and the number doubtless will be added to and subtracted from, according to the migrations of the various communities, as time goes on:

Chitina, *The Chitina Leader* (weekly); Cordova, *Cordova Daily Alaskan*; Douglas, *The Douglas Island News* (weekly); Fairbanks, *Fairbanks Times* (daily and weekly), *Fairbanks Daily News-Miner* and *Tanana Tribune*, *The Alaska Citizen* (weekly), *Miners' Union Bulletin* (weekly); Haines, *The Haines Pioneer Press* (weekly); Hot Springs, *Hot Springs Echo* (weekly); Iditarod, *Iditarod Nugget* (weekly), *Iditarod Pioneer* (weekly); Juneau, *Daily Alaska Dispatch*, *Weekly Alaska Dispatch*; Ketchikan, *Ketchikan Miner*; Kodiak, *Orphanage News Letter* (monthly); Nome, *Nome Nugget* (daily and weekly); *Nome Industrial Worker* (weekly); Ruby City, *The Ruby Record* (weekly); Seward, *Seward Weekly Gateway*; Sitka, *The Thlingit* (monthly); Skagway, *The Daily Alaska*; Tanana, *Yukon Valley News* (weekly); Valdez, *The Alaska Prospector*, the *Valdez Daily Miner*; Wrangell, *The Wrangell Sentinel* (weekly).

CHAPTER XXIV.

MISSIONARIES AND EDUCATION

Because they teach natives how to figure the value of their furs, missionaries are not welcomed by traders—"Cherokee Bob" believes that missionaries and ministers have their uses—Natives instructed in elementary and manual training—Country divided by different denominations to prevent confusion in minds of natives.

AS it is in the South Seas, so is it in the Arctic and sub-Arctic regions: missionaries and traders do not harmonise. There is about as much affinity between them as between oil and water.

The traders—or at least many of them—take a melancholic pleasure in telling of how, in those glorious, pristine days of large profits in barter and trade before the missionaries arrived, the natives were so honest, so truthful, and so delightfully simple-minded that they could not lie nor steal; everything then was lovely and harmonious; and comparing these conditions with the present, when, the traders declare, it is unsafe to go ashore in a strange village with your shoe laces untied for fear the natives will steal your foot-wear from your feet. With more or less detail pertaining to the iniquities of the missionaries, the traders manage to paint a really lachrymose picture of many good races of savages having been spoiled by the detrimental influences of those who attempted to civilise them.

The missionaries, maybe in reprisal, tell of the degrading influence the white man, especially the trader, has had on the natives; how Poor Lo was inveigled into an awful battle with

Demon Rum; how the tribes have become tainted with disease and addicted to the sins and vices of his white brother; how his country has been stolen, his game killed off and his means of livelihood destroyed; and the unfortunate part of it, for the trader, is that the missionaries' statements generally are borne out by the shameful facts.

The trader is solicitous for the native's welfare, but having a selfish purpose to subserve, his efforts, no matter how altruistic his purpose, are open to a reasonable amount of suspicion. It is natural, too, that the trader should not regard the missionary in the kindest light, for the missionary makes an exasperating practice of teaching the native how to figure and of educating him up to the real value of the furs and other goods which he has for sale, with the result that the trader cannot buy as cheaply as in those halcyon days when great piles of valuable furs were sold in exchange for a bottle of alcoholic liquor, a few fish hooks, beads, or an old rifle. Besides that, the missionary discourages the aborigines in the practice of drinking intoxicating liquors, and also—with the aid of revenue cutter officers and other officials—strenuously discourages the white man from giving or selling highly exhilarating beverages to the natives. It is therefore to be expected, when all the circumstances are considered, that at the points where trade is conducted, one will hear stories that reflect discredit on the men of cloth. The writer heard many of these stories, but during fourteen years' residence in the territory he was unable to verify a single one of them, and little credence is placed in them by the people of Alaska generally.

As "Cherokee Bob," a profane prospector, once sagely remarked:

"Missionaries and ministers is all right. Now there's my friend Bishop Rowe, as fine a fellow as I've ever met on the trail. The boys don't hold it up against him none becuz he's

a bishop. A feller can be a bishop if he wants to and still be human. If he don't do no good, he certainly don't do no harm, and if he can get any fun out of thumping a pulpit why let him go to it. We can't all be miners or gamblers or prospectors or hold-up men."

"Cherokee," as has been remarked was somewhat profane. His strong admiration for Bishop Rowe probably arose from that propensity which teaches us to admire in others that which we do not ourselves possess. "Cherokee" gloried in the many manly qualities which have endeared Bishop Rowe to everybody in the North, and, besides that, he had the greatest admiration for the divine's ability to express himself in strong terms without swearing.

The story goes that Cherokee's first acquaintance with the Bishop was at a point on the trail near Circle City. "Cherokee" was coming from Fairbanks, and the Bishop was going to that place. "Cherokee" had been having a hard time. It had snowed every day since he left Fairbanks, there were no road-houses on the way; he had been compelled to snowshoe a new trail every foot of the distance; he had run out of food for both himself and the dogs, and was in a much discouraged and highly disgusted state of mind. It was bitterly cold and both had their faces entirely swathed in fur.

"How's the trail from here to Fairbanks?" asked the Bishop pleasantly, after the customary salutation of the Northern wayfarer, had been exchanged.

"Cherokee" did not realise that he was addressing a man of the cloth, and he tore off an avalanche of profanity that lasted for several minutes. He swore once or twice between every word, and even divided the words into syllables to get in an extra expletive.

"It's the blankest, blank, blank, blank, blankety blank trail any blankety blank blank blank man has ever, blankety blank

saw," he explained. "How's the blankety blank trail from Circle to Dawson?"

"It's just about in the condition which you have so graphically described as pertaining to the trail from here to Fairbanks," the Bishop replied mildly.

When "Cherokee" learned he was addressing the highest dignitary of the Church of Alaska, he nearly swooned. It is related that the Bishop turned back and helped the tired musher and his exhausted team into Circle City, and never once chided him for his use of profanity. Hence "Cherokee" was ready to fight for the Bishop at the drop of the hat.

In the North are many men who, by their vigorous manhood and undying energy are carrying hope to the hearts of the Indians, and among those who have been prominent in this work might be mentioned Bishop Rowe, Father van der Pol, S. J.; J. Sheldon Jackson, and W. T. Lopp, the present head of the Bureau of Education in Alaska, the officers of the Revenue Cutter service, and many others. These men make many long, hard journeys over the country in both summer and winter, their influence extending over the 589,000 square miles of which the territory is composed. Besides the natural obstacles which the country presents, they often are hampered by lack of means. Unscrupulous white men have a tendency to degrade the natives, and their early superstitions are difficult to eradicate. The writer holds no brief for J. P. Morgan, the noted financier, but to him belongs the credit of materially assisting in making the consecration of the Bishop of Alaska possible. One reads of so few things that are creditable to captains of finance in these days that the recording of one good act with which nobody can find fault should prove quite refreshing.

Gregory Shelikof, one of the founders of the Russian Fur Company, was the first man to conceive the idea of doing some-

thing for the benefit of the Alaskan natives. In 1784 Shelikof began to teach the rudimentary branches of education in Alaska, while his wife instructed the women of the tribes in sewing and other branches of what is now known as domestic science. Empress Catherine II became interested in the work Shelikof began and through her efforts seven clergymen and two laymen reached Kadiak in 1794 and there established schools. These teachers gave religious instructions and directed the natives in agricultural and industrial pursuits. The work inaugurated by Shelikof was carried on by his successor in office. In 1820 the first school was opened at Sitka, where the natives were taught the Russian language and instructed in the trades and elementary navigation, the idea being to raise competent servants to take charge of the company's affairs.

Mission work among the Aleuts was commenced in 1824 by Ivan Veniaminoff, who, after learning the language of the natives, translated the Scriptures for them, and then returned to Russia, where he was made the Bishop of the Independent Diocese of Russian America. Later he sailed back to Sitka where he founded the Cathedral Church and undertook the conversion of the Thlingits.

In 1840 educational matters in Alaska were given considerable impetus by Captain Etolin, a half-caste who received his own education in the local schools. Etolin became chief director of the Russian Fur Company, which dominated the territory at that time, and he recognised the possibility of converting the Indians into more useful citizens. While religion was taught in all his schools, astronomy, navigation and arithmetic were considered the more important studies. He was assisted by his wife, who, improving on the example set by Madame Shelikof, founded a school for half-caste girls, instructed them in household duties and established a fund from which the graduates were given a dowry on their marriage to

officers or employés of the company. This plan was further improved by Veniaminoff, who, in 1841, established a theological seminary which was maintained at Sitka till the territory was transferred to the United States.

Although it has been the custom of the people of the United States to take pride in their public school systems and their advanced stage of educational matters, the Alaskan Indians were left from 1867 till 1884 to work out their own salvation, so far as the government was concerned. In 1884 an appropriation of \$25,000 was secured for educational purposes in Alaska, Dr. J. Sheldon Jackson receiving the appointment of superintendent of education. In leasing the Seal Islands to the Alaska Commercial Company, government provision was made for the maintenance of two schools, one on St. George and one on St. Paul Islands for a period of eight months in each year. More than thirty thousand other natives, however, were left without government educational instruction, save for that which was given them by the wives of the officers of the United States Army who were garrisoned at Sitka to occupy the territory on behalf of the United States.

In the meantime, however, the missionaries stepped in, the Presbyterian Board of Home Missions being the first to enter the field. A school was opened at Wrangell in 1877 and another at Sitka a year later. In 1880 the first missionary arrived at Haines Mission at the head of Lynn Canal, and within the next two years several others had been established. The Indians, although somewhat lacking in the instincts of morality, were quick to learn and gladly welcomed the missionaries, but, as before stated, these agencies of civilisation were not popular with the traders.

Prior to the passage of the bill which granted an appropriation for educational purposes, the Moravian Missionaries from Bethlehem, Pa., had landed at the mouth of the Yukon and



Photo by Hunt.

OLD RUSSIAN BUILDINGS AT KADIAK. THE NAILS AND DOOR HINGES ARE HAND-WROUGHT.
MANY OF THE BUILDINGS ARE THOSE WHICH WERE ERECTED BY UNDER-GOVERNOR
SHELIKOF



THE RED DRAGON MISSION AT CORDOVA, WHERE CHRISTIANITY IS COMBINED WITH A LIBRARY AND POOL ROOM
UNDER THE SHADOW OF A. B. MOUNTAIN, IS BUILT THE SKAGWAY CAMP OF THE ARCTIC BROTHERHOOD

had established a mission on that stream and later on the Kuskokwim and Nushagak Rivers, where institutions still are maintained. The Friends' Mission was established at Cape Blossom on Kotzebue Sound a year later and others followed.

About 1907 it was mutually agreed that the country should be divided between the dozen or more denominations that had entered the country, the guiding idea being that if different denominations were conducted in the same place, the simple minds of the natives would become confused.

The Presbyterians being the first to occupy Southeastern Alaska took that section of the country and other denominations moved out; the Baptists selected Cook's Inlet and Prince William Sound region; the Methodists chose the Shumagin and Aleutian Islands and the Aleutian Peninsula; while the Moravians elected to hold to the valley of the Kuskokwim and the Nushagak Rivers; the Swedish missionaries occupy Norton Sound; the Norwegians the Port Clarence district, and the Quakers still remain at Kotzebue Sound. The Congregationalists are situated at different points along the shore of Bering Sea and Bering Strait, and the Episcopalians control the Yukon Valley and the country to the northward. The Græco-Russian Missions are scattered broadcast throughout the territory, many of their missions still being in the places where they were built before Alaska was transferred to the United States. This agreement, however, does not apply to churches and chapels established in the centres of population and at practically all the large settlements in Alaska the traveler will find churches of different denominations.

Educational appropriations were made from year to year, and in 1896, Senator H. M. Teller, of Colorado, obtained legislation providing for the introduction of reindeer into the country. The plan for distribution of the deer was worked out by W. T. Lopp, who became superintendent of education

in Alaska. Many of the natives since have become practically independent. The department and the missionaries work hand in hand in developing the reindeer industry. Nearly every branch of education is taught, and the condition of the natives, despite the deteriorating influences that come from associating with white men, are much better off than they were forty or fifty years ago.

The education of the native is not confined to the three R's, but they are given manual training and instruction in village sanitation, morality and the domestic arts. The teachers, physicians and others in the employ of the department strive to elevate the race intellectually and to better their physical condition, and despite the discouraging reports of disease among them, their efforts are being attended with gratifying success. The government force, which conducts the native's schools, situated at intervals from one end of Alaska to the other, is composed of five district superintendents, eight nurses, four contract physicians and 102 teachers. Eighty-one public schools are maintained with an enrollment of 3,841 and an average attendance of 1,689. The teachers also act as reindeer supervisors. Of the 33,629 of these animals in the territory, 20,071 are owned by the natives. The work of teaching the natives is exacting and calls for persons well equipped both mentally and physically and actuated by the highest altruistic motives. Some of the teachers are located in portions of Alaska where the sun is not visible for a period of six weeks in the winter, and where the opportunities for social intercourse are decidedly limited. Quite frequently their nearest white neighbour lives at a point more than a hundred miles distant, and they receive mail and fresh food supplies but once a year, when it is brought in on a revenue cutter. Owing to the uncertain ice conditions the missionaries and government teachers along the Northern shore of Alaska sometimes do not get their sup-

plies in the summer of each year, and on these occasions they must depend largely upon the resources of the country for subsistence.

Hospitals for the natives have been established at Juneau and at Bristol Bay, where the natives, owing to the prevalence of tuberculosis and the intrusion of the serpent among some of their Russian ancestors, are in a deplorable physical condition. Much beneficial work has been performed by the medical corps of the Bureau in all parts of Alaska, and the mortality percentage has been greatly reduced. In spite of this fact, however, the Northern Indian and Eskimo is slowly being wiped out of existence. Statisticians estimate that, at their present death and birth rate, the whole race will be exterminated in less than one hundred years.

The cost of maintenance of the Educational Bureau in Alaska is approximately \$100,000 per annum, but the government in return for the expenditure is building up a reindeer industry which, in a very few years, will be worth several millions of dollars. Every dollar spent by the government in Alaska profited the people of the United States in a ratio of about one hundred for one, and the money expended on the natives — apart from the standpoint of humanitarianism — cannot be regarded as otherwise than safely and profitably invested. The natives have been advanced from the hunting and fishing to the pastoral stage of life and it is within the realm of probability that many of them will progress to the agricultural stage.

An Indian village, on the arrival of a school-teacher or missionary, usually is in a deplorably unsanitary and unhealthy condition, but through the untiring efforts of the teachers a change soon is wrought. It is sometimes difficult to eliminate from the aboriginal mind the superstitions inherited from past ages. This is particularly true in cases of sickness. The pa-

tient takes the white physician's medicine a few times, and if it does effect an almost immediate cure, he resorts to the incantations of the tribal medicine man.

The natives are very industrious, but prefer to accomplish everything by direct methods. In 1910 the writer met at Nome, an almost heartbroken missionary who, after considerable labour, had managed to obtain a small schooner for the natives. Then he purchased a gasoline engine with which to propel the vessel. On the first trip everything progressed nicely till the propeller hit an ice cake and one of the blades was broken off. The schooner was beached, and, after instructing the natives to take off the propeller, the missionary left them for several hours. When he returned he found that instead of uncoupling the propeller from the shaft, they had procured a number of files and, with infinite labour, had severed the three inch piece of steel that connected the propeller with the motor, completely ruining it. But despite sundry discouragements of this character, both government teachers and missionaries do much sincere, painstaking and zealous work.

Apart from the educational work done by the government teachers and the missionaries there are three kinds of schools in Alaska. The government and native schools, conducted by federal appropriation; schools for both whites and children of mixed blood leading a civilised life outside of incorporated towns, supported by federal licenses collected outside incorporated communities, and the public schools supported by the federal licenses collected within incorporated communities.

There are many high schools in Alaska, and the standard of education is quite as advanced as in any part of the United States. In exhibits of school work at the St. Louis World's Fair in 1903, the Lewis and Clark Exposition in 1905, the Jamestown Exposition in 1907-08, and the Alaska-Yukon

Pacific Exposition in 1909, many of the prizes for general efficiency were awarded to Alaskan schools.

The native and mixed schools are wisely and intelligently conducted under the supervision of the Bureau of Education, and the schools within incorporated communities are governed by school boards consisting of three members, one of whom is elected each year. In addition to the schools virtually all of the Alaskan centres of population have literary and debating societies and there are many well-filled libraries in different parts of the territory.

CHAPTER XXV

DOGS, DOG "PUNCHERS" AND DOG RACES

The part played by this animal in the development of Alaska—Its courage and steadfast loyalty under adverse circumstances—Drivers perform marvellous feats of endurance—The All-Alaska Sweepstake Dog Race, the Derby of the far North, more interesting and exciting than baseball championship—Animals are bred from wolves.

PERHAPS at some time in the near or remote future, a genius may invent an automobile that will travel over the Alaskan snow-fields. Maybe, at a not very distant date reindeer will have been taught to eat oats and thereby become endowed with sufficient endurance to stand the strain of a long, hard journey over the wind-swept, frozen plains. But for some considerable time it is certain that the dog is destined to be one of the most important factors in Alaskan transportation problems, especially in those sections of the territory that are difficult of access.

The malamutes and huskies, two varieties of dogs bred from the wolf by the natives from one end of Alaska to the other, have played a very important part in the development of Northwestern Canada and Alaska. They were utilised by the Indians before the Hudson Bay Company invaded the Great Northwest, nearly three hundred years ago. Just where the first of the species came from has been lost in history, but the natives still have a crude method of breeding them by crossing the females with wolves. The difference in the husky and malamute is that the former is bred from the timber wolf, while the latter has for its male progenitor the wild dogs that

have roamed the silent plains of Alaska since time immemorial.

Besides making remote parts of the territory accessible to the miner, prospector and explorer, these Alaskan dogs have contributed their mite to the English language — that is, in so far as English is spoken in Alaska. The command "mush on" or "mush" directed to a reasonably intelligent dog in the United States would be productive of nothing more than a pricking up of the ears and a quizzical sidewise look that might be translated into "Come again, Boss; I don't get you." But when the order "mush" is given to an Eskimo dog it will result in the animal's departure.

The word "mush" means "get out of the way," or "go ahead." It was not derived from the squashy condition of northern trails in springtime, but had its origin with the French-Canadian dog drivers employed by the Hudson Bay Company, who told their dogs to "marche-on." The corruption of the word into "mush," together with its nouns and adjectives, has been incorporated into the English used through Northwestern Canada and Alaska, as "he is a good mushing dog," or, "we mushed from Dawson to Nome," which would apply to two or more travellers; or "it was tough mushing," meaning that the trail was in a bad condition for travelling. A stranger in Nome hearing the command "mush," given to the multitude of malamutes which, on cool days, adorn the sidewalks on the sunny side of the street, remarked:

"It seems to me there's ten thousand darned dogs in this town, and every last one of 'em is named 'mush.'"

Except that the husky is somewhat larger than the malamute, both varieties are very similar in appearance. Their usual colour is a smoky grey, although once in a while a black malamute is encountered. These are about in the proportion of black sheep in a flock. Both have round-pupilled eyes, and long hair, under which in winter, they grow a soft fur which

is discarded in summer; both have bushy tails, strong legs and deep chests. Neither malamute nor husky has learned how to bark, but both can howl and yelp loudly in voices that are decidedly and positively unmusical. The ringing of church bells, the playing of a band, or the singing of a soprano or tenor voice will cause them to sit forlornly on their haunches and give forth the most horribly discordant wails it is possible to imagine.

Their characteristics are identical in every respect. Both are faithful servitors, great fighters in a rather cowardly manner, and inveterate thieves. Even when not hungry they steal just to keep in practice. When a fight starts every dog within hearing distance of the yelping, snarling combatants yearns to become an active participant and loses no time in gratifying his ambition in this respect. The code which prompts a man to lend aid to the under-dog does not appeal to the malamute and husky. Their ethics are the very antithesis of this worthy principle. When two dogs begin fighting the others do not sit idly by on their haunches — an impression created in a widely read Alaskan novel, but the battle very quickly develops into one in which every dog in the vicinity is involved, and each deems it his bounden duty to bite and rend with all the savage ferocity of his nature at whatever unfortunate animal happens to have been thrown to the ground. Dogs are impartial in attack and absolutely devoid of filial regard. The prostrate canine might be their own unrespected father, but a little matter of blood relationship makes no difference. The mandate of Alaska dogdom is, "Keep your feet, or pay the penalty of having your hide bitten and torn to shreds." The idea of two huskies engaging in a fight to the death, while their team mates coolly squatted on the snow and calmly watched the progress of the fracas, like the holders of ring-side seats at a pugilistic encounter, is ridiculous.

During the summer the chief occupation of an Alaskan dog seems to be to lie on the sidewalk and push the white man off into the mud, but he comes out strong in the winter as a sharer of hardship, an aid to transportation, a worker and a sport. Like the true Bohemian who always is willing to share with you your own last dollar, the Alaskan dog will share with you the hardships of the trail and with equal impartiality will divide with you the contents of the provision chest. In fact, he will more than divide; if not closely watched, he will eat it all.

Still, he has many good qualities. It is true that with the advent of a full moon in the sky, he makes night hideous with mournful howls that sound more dismal than the wail of a chorus of lost souls in Sheol, but apart from that, he is not a bad companion. When disgrace or poverty overtakes his owner, he is quite sympathetic, and doesn't hide his tail between his legs in shame, but very tactfully pretends that he doesn't know there has been a change of fortune, and wags his tail, jumps around, "smiles" and gives other demonstrations of cheerfulness as though he would say, "Buck up, old chap; the worst is yet to come."

He is a true philosopher, and accepts with gratitude what the gods give. If you hand him a piece of tough raw-hide from a snowshoe or from the lashing of a sled, he will not turn up his nose at it and mutely "kick about the grub," but will wiggle his haunches and lick his chops in well-simulated ecstasy, while his quizzical eyes seem to remark, "Why, this fricasseed snowshoe, although somewhat plebeian, is excellent. It's really enjoyable and quite nutritious when properly chewed."

Worldly affairs make no difference to him. When hard luck comes, he is broad-minded enough to make believe that he doesn't notice the change in the quality of the cuisine. He is just as affectionate, just as faithful when living on rawhide

or snowballs and wind pudding as he is when the bill-of-fare is made up of breast of ptarmigan and choice cuts of moose or caribou steak.

Many are the instances recorded in Alaska where dogs have shown devotion and self-sacrifice that well might put men to shame. The Council City Camp of the Arctic Brotherhood endowed life membership on a worthless-looking little mongrel named "Growler," who lived at the lodge headquarters for many years and never was asked to do a stroke of work. With age he grew arrogant, and tried to run the whole institution. Yet those sturdy Northern men were patient with his ill looks and disagreeable temper, for "Growler" had demonstrated that he was made of the right material. "Growler's" owner, "Old Man" Waldron, lived on Fox River, about fourteen miles from the settlement, and on Christmas Eve, 1901, started for Council City to participate in the Christmas Dinner and Tree annually arranged by the members of the Arctic Brotherhood. Council City's population at this time consisted of about 600 men, thirty-five women and eighteen children. Not having enough little folks to go 'round, the Christmas Tree was made a semi-public affair, to which everybody was invited, especially the children and their mothers. Without the youngsters, the Christmas Tree obviously would have been an awful fizzle.

"Old Man" Waldron sent word that he would be in town to take part in the festivities, but a howling blizzard sprang up the day before the event, and his seat at the feast was vacant. It was supposed that he had remained at his camp, and the Arctic Brothers quaffed a toast to his health. Two days later four of his dogs, carrying parts of their harness, appeared. Examination showed that they had bitten the leather which doubtless had bound them to a sled. On the third morning a party started out to search, and the next afternoon they found



Photo by Dobbs.

ESKIMO SCHOOL CHILDREN AT THE CAPE PRINCE OF WALES MISSION



HAULING FREIGHT ON BERING SEA, WHERE THE ICE CRUSHES AND GRINDS, WITH A CREAK-
ING, CRUNCHING NOISE THAT CAN BE HEARD FOR MANY MILES

"Growler" lying half starved in the snow, and beneath him was the frozen body of his dead master.

The same year George A. Carpenter, a newspaper man, and Billy Vint and Robert Hunter, two prospectors, were caught in a blizzard on the Noxapago Divide, the crest of country which forms the source of the water running into Kotzebue Sound and the streams flowing into Port Clarence on the eastern end of Seward Peninsula. They attempted to pitch a tent, but the wind seized it and wrenched it from their hands, and for three days men and dogs huddled together in the snow. Famished and freezing, they began to eat frozen raw bacon and to melt snow in their mouths to alleviate their torturing thirst.

On the fourth day, while the blizzard still roared in their ears, they elected to desert their camp and try to walk before the storm in the forlorn hope of finding a roadhouse or other habitation. To have faced the wind or to have stopped to rest would have meant certain death. To keep the blood flowing in their veins and their flesh from freezing, exercise was imperative. They knew that once started, there could be no turning back, no stopping to rest by the wayside. After a time a craving for sleep beset them, but they fought it off, wildly, desperately. At times they became slightly delirious. Now and again as they staggered along there appeared before them a vision of waiters bearing steaming cups of coffee; a phantom smell of sizzling bacon tantalised their olfactory nerves. In fancy, they heard men talking on the plains. Tents and houses appeared before their eyes, only to vanish again in the next squall of whirling snow. They lost all sense of direction. All they knew was they kept the wind at their backs for they felt certain that in it Death stalked.

Two days later Carpenter, completely exhausted, was unable to proceed another step. He could scarcely keep his eyes open

and his weary leg muscles refused to move. Every step for the past ten hours had been a separate agony. The wind still howled and hurled the snow around in twisting sheets, while the steely cold cut like knives through their clothes and into their quivering flesh. They could scarcely resist the temptation to make a couch in the soft, inviting snow. Carpenter fell prone, and, feeling that he was jeopardising the slim chance for life that belonged to his companions, he begged them to bury him alive, where the wolves would not get his body, and where he hoped that he might be able to fight off the white death sting of the Arctic till help came.

Of the fifteen dogs with which the party was equipped on leaving Candle Creek on the fateful journey, only "Big Jim," in whose veins flowed the blood of St. Bernard and mastiff parentage, remained. "Jim" was Carpenter's wheel dog. The animal stayed by his owner.

Soon after his companions had disappeared in the spume of whirling, blinding snow, Carpenter slept. He awakened with the feeling that he was being smothered, and raised his arm to brush away the bank that had drifted over his face. The wind tore the mitten from his hand, and in his weakened condition, he was unable to pull the member back under the white, frozen blanket. As the digit began to freeze "Big Jim" laid his ice-incrusted body upon it in a futile attempt to start the blood pumping.

On the eighth night after Carpenter, Vint and Hunter had stopped at the top of the divide, a number of mushers, who were crowded together in a little igloo made of willows and banked with tundra sod, heard their dogs barking. They found Hunter, half conscious, stumbling through the storm. He wore both mittens on his right hand.

"I thought I would try to save one of them," he mumbled through cracked and freezing lips. His left hand was white

and solid as a piece of sculptured marble. One of his moc-casins was frozen to his foot.

In a voice made harsh by suffering, he incoherently informed his rescuers that two other badly frost-bitten and exhausted men were wandering somewhere through the biting cold on the snow-drifted tundra.

With the assistance of dogs and a native, the mushers followed the back trail and found Vint lying exhausted on the icy plain and being slowly buried under the drifting snow. Vint tried to direct them to where Carpenter lay, but having wandered in every direction that would keep the wind-driven, frozen particles of snow from striking his eyes, his ideas as to location were vague and useless.

While one party rushed Vint to the igloo, another continued the search. Just as dawn was breaking the next morning, they heard the baying of a dog. It was "Big Jim." For nearly nine days this faithful animal had eaten very little food, and for the last five he had eaten none at all, but he chose to suffer the pangs of starvation rather than leave his down-and-out master to die alone.

Kissed by the withering frost, Hunter lost a few toes, a part of one heel, and one hand; Vint paid tribute to the Boreal King with the ends of a couple of fingers, a toe, and part of his nose. Carpenter sacrificed one foot, both hands, both ears, part of his nose and finally died under the shock of a third operation by which his remaining foot was to have been amputated.

And the dog? Well, when we met him on the street, we raised our hats to "Jim."

There are many tales of hardship and heroism in the North in which dogs have done their part and more. Even in connection with the story told above, other deeds of courage and self-sacrifice were performed. Carpenter, physically worse off

than either of his travelling companions, was taken to Nome on a dog team driven by Joe Vint, a brother of one of the injured men, and A. D. Nash,¹ a mail carrier and intrepid musher. There were not dogs enough to haul all three, and the two other survivors insisted that Carpenter should be the first to go.

There was, too, the story of "Southpaw" Bill Griffith, a Candle Creek mail carrier, who in 1909, when crossing Death Valley, which received its name because of the number of mushers who there perished, took a repeating shot-gun from his sled to kill some ptarmigan. The barrel had been contracted by the cold, and when Griffith fired, the breech-block blew out. Penetrating his face at the side of the left eye, the two-inch piece of sharp-pointed steel shattered the bone and protruded again in front of the left ear. Griffith was knocked down by the shock. Half blind and suffering excruciating agony, he felt the piece of steel sticking out of his face, and tried vainly to dislodge it. Blood pouring copiously from the wound stained the snow.

Completely blinded in the left optic and with the right eye shedding tears so profusely that he could scarcely see, the mail carrier deliberately laid his face in the snow and kept it there

¹ Nash subsequently again distinguished himself at the time of the San Francisco earthquake, when he drove an automobile loaded with dynamite, that was badly needed in the burning city, from Goldfield to Reno, Nevada, at the rate of sixty miles an hour. The machine jumped and bumped over the rocks and ruts in the primitive road, but, with marvellous good luck rather than judgment, the deadly cargo did not explode. With the certainty that he was likely to be blown into eternity at any moment, Nash never choked down the throttle or slackened speed till he reached Reno, where a special train was waiting to carry the dynamite to San Francisco. Nash, by the way, made a couple of million dollars in mining in Nevada, but he is remembered in the North more for his daring courage on the trail as a musher and a mail carrier than for his ability as a captain of industry.

till it was frozen solid, thus stopping the flow of blood. He felt his way back to the sled and, unable to see the trail, yelled to his dogs to "mush on." Without being directed the team carried him to a roadhouse at the head of Fish River, nearly sixty miles distant, whence he was hurried to a hospital at Council City.

Many remarkable feats of endurance have been performed by mushers on Northern trails, but a large part of the credit belongs just as much to the dogs as to their drivers. Pounding the trail, day in, day out, several mail carriers have driven their teams an aggregate of 5,000 miles during the eight months of the Arctic winter, and many spectacular one-day runs have been made.

Ellington Strother Bunch, a newspaper correspondent, when "punching dogs" in Alaska, established a record for the run from Little Delta to Fairbanks, a distance of 102 miles, which he traversed in twelve hours, carrying a passenger. The run was made on a wager.

Perhaps the most brilliant continuous run ever recorded was made by Peder Berg, a young Swede of superb endurance, who in the All-Alaska-Sweepstake dog race of 1909, covered a distance of 137 miles in nineteen hours.

The middle distance record is held by John Johnson, who won the All-Alaska-Sweepstake dog race of 1910 with a team of Siberian wolf-hounds, owned by the Honourable Fox Ramsay, a brother of the Earl of Dalhousie. Including stops, Johnson and his team covered the distance of 412 miles in 71 hours, 14 minutes and 20 seconds. Ramsay drove the team that finished second, but as he was joint owner with his uncle and Colonel L. Stuart Weatherly in both teams, he shared in the first prize.

The long distance records are held by Jujiro Wada, a sturdy Japanese, who frequently has driven his team into the wilder-

ness over several thousand miles of unbroken trail and unknown country. For a wager of \$5,000 he offered to drive a team from Nome along the coast of the Arctic Ocean to Hudson Bay, or some other point on the North Atlantic seaboard.

The short distance record is held by Split-the-Wind, an Eskimo boy endowed with wonderful powers of endurance who ran thirteen white men completely off their legs in a Marathon race. In 1911, Split-the-Wind defeated the time made by Ablakok's racing reindeer team over the eight mile course between Nome and Fort Davis and return. He drove a team of Missouri hound dogs owned by Sol Warren, and covered the distance in 40 minutes, 9 seconds, which was nineteen seconds less than the time consumed by the racing reindeer.

Short distance dog races and deer races, while highly amusing to the native, are but the hors-d'œuvres in the satiation of the Caucasian appetite of the North for sport. The big event of the year is the Annual All-Alaska-Sweepstake dog race from Nome to Candle Creek and return, a distance of 412 miles. This event is a unique, thrilling contest—a contest of strength, speed, endurance, courage and judgment. It is an event in which everybody—men, women, children and Eskimos—are interested. For months before the race the entire population “talks dog.” Other subjects of conversation are tabooed. During this period the animals scheduled to take part in the struggle have the time of their lives—they are carefully trained and fed upon good porterhouse steaks and other choice cuts of meat.

The intense interest in the sport may be judged from the fact that when, in 1909, a racing dog wantonly killed thirty-five sheep that were browsing on the hillsides, and the owner of the mutton on the hoof sued the proprietor of the dog, the jury promptly returned a verdict to the effect that “Alaska is a dog country not a sheep country,” and that, therefore, the

owner of the horned ruminants was not entitled to damages. The dog racing enthusiast pleaded the "unwritten law" and the jury, by their verdict, obviously agreed with him in the far-fetched theory that the sheep must have been the aggressors in the sanguinary conflict that ended so unfortunately.

During the period of eight months, when the residents of Northwestern Alaska are cut off from the civilisation of the United States by the ice which covers Bering Sea, dog racing becomes the one question of real importance. Several short races are held during the winter, but early in April, when daylight is long and the trails are in good condition, the Annual All-Alaska-Sweepstake is staged. While this event is in progress all business is absolutely suspended. The laundries, stores, schools, courts and every other place of business with the exception of the saloons, of course, are closed.

It is doubtful whether there is any other sport in the world that contains so many elements of danger and calls for so much endurance and judgment. Across treeless tundras, frozen streams and rugged divides, along the icy coast, and often in the face of blinding blizzards, the competitors, men and dogs alike, struggle for supremacy from start to finish. The course is along the shores of Bering Sea, over the Topkok Divide to Council City, along Fish River to Death Valley, across the valley, and down the Keewalik River to Candle Creek and return by the same route. It is a trail bestrewn with many obstacles. The time consumed is generally about eighty hours, during which nobody sleeps. The 1911 and 1912 races were won by A. A. ("Scotty") Allen, who drove a team owned by himself and Mrs. C. E. Darling, a California writer of verse and short stories.

While the race doubtless is sufficiently exciting for the competitors, it is not all that could be desired from the standpoint of a spectator. To a considerable extent, it is a matter of

mathematics and sustained effort at computation. The teams start fifteen minutes apart and the one that covers the course in the least time is adjudged the winner. The process of witnessing the big dog race at Nome is about as follows:

With his coat well buttoned up and the ear-flaps of his fur cap pulled down to keep out the frost, the onlooker walks from the main street of the town to the ice-covered shore of Bering Sea, where with a number of others, all of whom excitedly are "talking dog dope," he stands around in the cold for a few minutes, and then hears a shot fired. This is the signal for starting. Immediately following the detonation of the pistol, the spectator sees a streak of dog, with a man and a sleigh attached to its hind-most end, vanish down the coast and slowly melt into the scenery where the snow and sky blend. Then he returns up-town, warms his hands at the saloon stove and, fifteen minutes later, returns to the ice-covered sea, hears another shot, and watches another team go streaking across the frozen trail. He continues this performance ten or twelve times, or until the last team has started. Then for three days and three nights, he stands around the blackboard in one of the various saloons, leaving only long enough to grab an occasional hasty meal at a near-by lunch-counter, and with pencil and paper computes the positions of the different teams as reports of their progress are received over the long distance telephone. Before the race is finished, he has as many figure-covered pieces of paper as a busy bookmaker's clerk at a race-track. A few of his figures have to do with the bets he makes as the race progresses, but otherwise they pertain entirely to mileage and the effluxion of time.

The spectators also must be endowed with certain powers of endurance. Once in a while an onlooker leaves the blackboard to phone the reports to his home, where, more than likely his wife and a dozen other women have foregathered,

each of them busily engaged in figuring out the positions of the different teams and speculating as to the winner.

On the second day, when the teams are on the return journey, the interest increases, and by the time the teams are twenty miles from Nome the excitement becomes intensified, and especially so, if the racers are only a short distance apart, according to time. When the leading team passes Fort Davis, a cannon is fired and everybody, excepting those in the hospital or otherwise incapacitated, immediately finds a nice, cool perch on the ice-hummocks of Bering Sea, where they excitedly wait till the winning teams stagger and limp across the line — and the race is over for another year. The driver of the winning team is raised shoulder high and carried to the Arctic Brotherhood hall, where a wreath is placed on his brow, and after this ceremony is over, he is rushed to a Turkish bath house.

It must not be thought, however, that the drivers, owners or spectators engage in this strenuous sport solely for the honour of winning. The prize usually is \$10,000 in gold and a massive silver loving cup, and an aggregate of about \$200,000 is wagered on the result. Of course, gambling is against the law in Alaska, but wagering on a dog race euphemistically is termed "backing one's judgment," which is entirely different from gambling. It's more like dealing on the stock exchange.

Owing to a decrease in population in Northwestern Alaska during the past few years — a condition largely attributable to the fact that an unwise government policy forces the residents to import their coal at a great cost from Canada — the prize money for the dog race in the years 1911 and 1912, was reduced, and the amounts wagered on the results were smaller.

Mining being their principal business, the people of Alaska naturally have a predilection for engaging in anything that contains within it an element of chance, and this not unusual

propensity finds its strongest manifestations in the many raffles of cold-storage turkeys that are held at Thanksgiving and Christmas. Nobody thinks of buying a turkey—they all want to win one in a raffle. They try to flatter themselves into believing that this is the cheapest method of acquiring a “gobbler.” A turkey raffle holds the same attraction for a man in Alaska that a department store bargain sale holds for a woman in the United States. The temptation in an opportunity to obtain something at a reduced price is too great an attraction to be resisted. It frequently happens that one man will win from fifteen to twenty turkeys. Turkey every day for dinner till these are eaten has obvious gastronomic impossibilities, and for the next month or six weeks the “lucky” winner of a large number of birds will diligently and, quite often fruitlessly, hunt for indigent families upon whom to bestow a portion of his surplus of riches. Under these circumstances an opportunity to bet on a dog race, naturally is welcomed.

Dog racing, besides having within itself all the alluring elements of chance that are essential to its popularity, requires the exercise of judgment of the keenest order. One of the rules of the Nome Kennel Club, under whose management and auspices the contests are held, is that every dog must be registered at the start and that the driver must return with the same dogs, dead or alive. Therefore, it is necessary that the owners and drivers shall choose dogs possessed of equal speed and endurance. If any of the dogs break down or die from exhaustion, they must be carried on the sled, and thus they prove an impediment to their team mates. Lack of judgment in this respect has lost many races and many big wagers.

The Nome Kennel Club was founded by Albert Fink, an attorney, ostensibly for the purpose of improving the breed of dogs used in the country during the winter to transport miners

and supplies from one part of the country to another. The development of dog racing was incidental. It was never thought that this sport would come to be ranked of the same importance in Alaska as is the competition for the baseball pennant in the United States.

Many different kinds of dogs are bred for racing purposes, and speedy animals bring high prices. Those of sufficient class to compete in the Derby of the North are sold as high as \$250, and as much as \$1,200 has been paid for a good leader. The general plan of breeding is to cross one of the well-known species of speedy dogs with the native malamute or husky. Among the breeds most favoured are Missouri bird hounds, great Danes, Airedales and Russian stag-hounds.

The Siberian dogs imported into the territory by the Honourable Fox Ramsay and his partner, Colonel L. Stuart Weatherly, which won a sensational race in 1910 and broke the time record, are small animals with a trace of the fox in their make-up. Their appearance is that of the wolf-dog in miniature. The bushy tail, the thick hair, and the strong legs, are all there, but the pupil of the eye is elliptical in shape, and this fact leads to the well-grounded suspicion that their ancestors belonged to the Reynard family. These dogs are not fast, but possess wonderful endurance, usually making the 412-mile journey with but two or three hours' rest. The malamutes and huskies, and all of their crosses are faster, but they lack the qualities of endurance possessed by their Siberian cousins.

Racing and working dogs are fed but once a day. They are given their meal after the day's work is done, and then they lie down in the snow to sleep like tired children. If a storm arises, they allow the snow to blow over them, and, buried beneath it, sleep comfortably till morning.

If their food is too hot they pull the vessel containing it

into the snow or on to the ice, and test the temperature with their long tongues until it is cool enough to be eaten without scalding the mouth. In summer they forage for themselves, catching ptarmigan, rabbits, ground squirrels and other fauna. This desire to hunt sometimes causes trouble for the mail carrier or musher. If one of his dogs sights a flock of ptarmigan or a rabbit, he gives a peculiar howl which acquaints his teammates with the fact, and then helter-skelter, the entire team races after the game, dragging the sled and driver behind them. It may sound like a fish story, but it is nevertheless true, that Alaskan dogs, when pressed by hunger, will go fishing, wading into the streams and standing like statues on the river bars till they spy a salmon wriggling up over the shallow. Then, like a flash, they jump for the fish. Usually the struggle is brief and the dog generally wins.

In summer a few Alaskan dogs become afflicted with a disease called hydrophobia, which is highly contagious, if they bite another animal of their own species, but there never has been recorded in the territory a case of a human dying of rabies. This strange malady causes the dogs to rush along, snapping their jaws and biting at their own spinal columns; meanwhile frothing at the mouth and displaying other symptoms peculiar to a mad dog.

Those imported from the United States are called "outside" dogs. Many of them are faster than the Alaskan animals, but they lack the endurance of the Northern species, nor are they as well adapted to the country. In a short journey over a hard trail, especially in the spring when the snow is crusted, the feet of the outside dog will be cut to ribbons and he will leave a trail of blood wherever he goes. Such a misfortune rarely befalls the native animal. The years that his ancestors have lived in the Northern environment have evolved a foot that is impervious to the hard cutting edges of the

crusted snow, and, besides that, hair grows right down to the tips of the toes as a protection against the rigorous climate.

When pressed for food, Northern dogs are not above committing acts of cannibalism, and there are many cases on record in Alaska, where mushers, in desperate straits, have eaten their dogs to save their lives.

CHAPTER XXVI

SPECTACULAR VOLCANOES

Slumbering craters spread along Aleutian Islands and mainland contiguous—How they spring into life at intermittent periods—Ever changing they are filled with surprises for navigators and natives alike—Islands appear and disappear beneath waves—Two continents may yet be made one by seismic disturbances.

SMOKING and quavering—now and again with subterranean rumblings, at times with loud detonations as of a thousand thunder crashes rolled into one—more than twenty volcanoes are in more or less active eruption in Alaska, scattering sand and volcanic dust over the landscape. Sometimes this rain of ash is a light veneer; but, in the summer of 1912, when a new volcano burst through the mass of rock and muck that for years had choked it, the top was blown off Mount Katmai. The fall of ash on Kodiak Island and along the shores of Shelikof Strait that followed the explosion attained a depth of from one to twenty feet.

Alaska is always spectacular. Its slumbering craters, spread along the Aleutian Islands and on the mainland contiguous thereto, at intermittent periods and sometimes with dramatic suddenness, spring into active life.

To the eastward, just off the line of travel to Bering Sea, lay those ever-changing pieces of real estate—Bogosloff Islands. Thrusting themselves up from beneath the brine, as though impelled by some colossal Atlas, and again subsiding beneath the waves—one day churning the ocean into a cauldron of scalding water, killing millions of fishes and birds and seals, and the next sinking from sight and leaving a calm and

placid sea where before mammoth peaks had stood — these islands are something with which scientists conjure.

Within the past ten years Alaska has been the scene of almost every phenomenon known to science. New islands have been formed, older ones have been destroyed; earthquakes have shaken millions of tons of glacial ice from mountain tops where it was lodged æons ago; submarine convulsions have buried the deep-sea cable beneath thousands of tons of rock and débris. These are the signs of a constant struggle of the elements, which indicate that maybe a new and mighty continent is in the throes of labour.

Few of the Alaskan volcanoes are constantly violent. Some continuously send forth a thin column of smoke, some emit poisonous gases, and still others, after sleeping peacefully for many years, suddenly break forth into startling activity.

Such an eruption was witnessed on June 6, 1912, from Shelikof Strait by the passengers on the steamship *Dora*. It was spectacular and awe-inspiring to the last degree; yet, considering the magnitude of the cataclysm, little damage was done. So far as is known the lives of only three natives were lost.

Sailing this landlocked sheet of water in beautiful weather, lazily watching the dolphins playing in the blue and white waves that purled back from the prow of the ship, the passengers were suddenly appalled by a succession of quick, sharp reports, which seemed to emanate from the shore about sixty miles distant. The crepitation was followed by small tidal waves, which caused the vessel to oscillate violently. It was noticed that Mount Katmai — formerly an extinct volcano — was smoking.

A terrific detonation, the concussion of which stunned many of the voyagers, was heard. Panic-stricken, they stared at the mountain in the distance. More terrifying explosions, culminating in one more deafening than all the rest combined and

which gave the sensation of shredded ear-drums, followed.

"Had the world exploded?" they wondered.

Big columns of smoke and flame belched from the peak. They looked again. The topography of the country was changed! The whole top of the mountain was missing! Floating miles high above it, like an inky pall, was a gigantic black cloud.

With the speed of an express-train the bank of smoke began to spread out like a huge fan, one wing of it coming rapidly toward the vessel. It seemed an overhanging emblem of death.

Immediately the ship headed for the open sea. The terrible thing above — hideous, relentless, deathly — followed. It was weird, uncanny. There seemed no escape. Forced-draught and a full head of steam availed little in the race. The cloud above was gaining. For two hours firemen below decks sweated and toiled, shovelling coal into the furnace, but the terrible cloud, hovering above like a death-angel, came nearer and nearer. Its close approach to the fleeing ship was heralded by thousands of sea-fowl and shore-birds that scudded, squawking and shrieking, before it. The bright sunshine was transformed into twilight, and within an hour the vessel was enveloped in darkness so dense that the water could not be seen from the decks and a lamp was held close to the compass in order properly to direct the vessel's course. Many birds, wounded and exhausted, fell dying all over the ship. The darkness was complete, absolute.

Blinding flashes of lightning now and again rent the atmosphere, leaving the outlines of the ship standing out — an intangible spectre in the ghastly glare. Like a duel between big batteries of heavy artillery, the detonations continued, occasionally subsiding to a loud rumble. Volcanic ash fell in clouds and pumice pebbles pattered on the deck like buckshot. Stifling, suffocating gases vitiated the air and breathing was

accomplished with difficulty and agony. The passengers sought their staterooms, only the officers and crew remaining on deck.

An electric storm, accompanied by terrifying crashes of thunder and streaks of forked lightning that played clear across the heavens, added to the horror of the phantasmal scene. The explosions ceased and a wind sprang up causing the sea to churn and the ship to rock and pitch in violent motion. Sparks of lightning danced, ghost-like, in the Stygian darkness across the gap in the wireless instrument, but despite this, the operator stuck to his key and endeavoured to call Kodiak, a small town on the island. He received no answer. The land station had been struck by lightning.

Two ships, running for safety, scudded by in the ominous pall. Between the intermittent reverberations of the belching mountain and the crashing of the thunder, the bells and fog signals of the other vessels were heard.

Suddenly the wind assumed the velocity of a cyclone, shrieking and whistling wildly through the shrouds like a chorus of lost souls. Passengers, affrighted and awe-stricken, watched and heard. The captain bellowed his orders from the bridge through a megaphone; the tempest hurled his words back into his throat. Waves, weighing tons, dashed over the fore part of the vessel and washed it clean of ashes.

The passengers, already nearly suffocating, were seized with violent paroxysms of coughing and all felt miserably. The cries of wounded and dying birds as they fell on the deck and into the sea, added to the eerie weirdness of the surroundings. For ten hours the vessel groped and struggled through the stupendous waves that tossed angrily, like miniature mountains of seething water. Then the air became thinner — there was less dust.

From darkness the ship merged into a sickly yellow twi-

light, through which the sun shone like a fiery red sphere. Behind, like some immutable monster of death, was the great black cloud, spreading out and covering an area of 10,000 square miles. It looked as though it would envelop the earth. Further beyond, the growling mountain spasmodically coughed up columns of smoke and sheets of flame in violent, jerking convulsions, and, as forked lightning played about the great orifice on the top of the crater, darting here and there like writhing snake-tongues of blue and yellow flame, the passengers shudderingly surveyed the scene through the sub-Arctic twilight, and spoke only in hushed and husky whispers. The spectacle was magnificent; but awe-inspiring and dreadful in its magnificence.

Dust and soot were everywhere. Foreign elements permeated the food, the dishes, the kitchen-ware, the remotest parts of the ship. Eyes, ears, noses, and lungs, were filled with ashes; clothes reeked with white sand and the pores of the skin were choked with grime. For nearly twenty hours the vessel had been swaddled by the cloud. Emerging into clear air, her decks were covered a foot deep with sand and ash. It was a terrifying experience, yet none of those who passed through it felt any ill effects afterwards.

The country within a radius of hundreds of miles of the volcano was covered with ash and sand, but strange as it may seem, the fall was heavier on the westerly side than on the easterly side of Kodiak Island, although the easterly side is closer to the mountain. For several days after the eruption the water was tainted with sulphuric acid. Many millions of fishes were killed by the subterranean concussions. One of the remarkable phenomena in connection with the eruption was the changing of all red paint to a dull brown colour, and the blackening of all silver and brass ware. Fishing was suspended for several days at the canneries adjacent to the crater



TEAM OF SIBERIAN RACING DOGS ON THE FROZEN WASTE OF BERING SEA.—THE ALL-ALASKA-SWEEPSTAKES DOG RACE, HELD ANNUALLY, IS OF MORE INTEREST IN NORTHWESTERN ALASKA THAN THE ELECTION OF A NEW PRESIDENT OF THE UNITED STATES



Photo by F. E. Bagger, U. S. R. C. S.

THE BIRTH OF A BACOSLOFF—"AN ISLAND REARS ITS HEAD OF RED-HOT GLOWING ROCK,
THROUGH SWIRLING CLOUDS OF STEAM, FROM THE BED OF AN ARCTIC SEA"

because of the damage done the streams to which the salmon run from the sea to spawn.

Bogosloff Islands, those pieces of real estate upon which it would be impossible to levy taxes because of their habit of doing the disappearing trick, have gone through many transformations. It — or they — was first noted in 1790 as one island, by the Russian admiral, Bogosloff. When the United States took over the territory the island had multiplied itself into two. The new addition to the island family was named "Castle Rock," because it was a mere rock shaped like a castle.

Then the original island grew larger, and later a second one, known as the New Bogosloff, appeared. Still later, a strip of land connecting the two thrust up from the bottom of the sea, much to the astonishment of navigators who had been in the habit of sailing between the two while hunting sea lions on their shores. New Bogosloff was created in the winter of 1886-87. It was born about four miles from the old Bogosloff and has remained stationary ever since. In 1905-06, a new volcanic island known as the "Metcalf-Perry Peak" was thrust up between the two islands. In 1906-07 there appeared another small upthrust of land which was named "McCulluch Peak" in honour of the officers aboard the U. S. revenue cutter *McCulluch* by whom it was first observed. In October, 1907, "McCulluch Peak" disappeared, and on July 7, 1908, the "Metcalf-Perry" Peak split into halves and one half sank to a watery grave. There was created in its place a long, narrow band of rock joining the Old and New Bogosloff Islands into one parcel of realty.

The crew of the U. S. S. *Albatross*, in 1908, while trawling off the islands, observed the surface of the ocean rising in a gigantic, dome-like, swelling, suggestive of a colossal soap-bubble pushing its way through the water, and then subsiding. This occurred several times, and before each sub-

sidence there was a tremendous escape of gas. Then gigantic clouds of smoke and steam issued from the place where the humps of water had been seen. As the astonished officers and crew watched, the eruption gradually grew in immensity until it appeared as though it would reach the sky. The spectacle which they witnessed doubtless was a subterranean volcano growing into activity, and which later added bulk to the Bogosloffs.

On September 19, 1910, another new island was born, the officers and crew of the revenue cutter *Tahoma* being eye-witnesses to the accouchement. When twenty-five miles distant from the island, the vessel encountered a terrific electrical storm, an unusual condition in that region. Surmising that the island was "cutting a few capers," Captain Johnstone H. Quinan headed his vessel for Bogosloff. An immense black cloud was hanging over the islands. As the vessel approached, it was seen that a column of smoke and flame was spouting like a geyser from the sea. Lightning, forked and wicked, dazzled the eye as it darted through the inky clouds, suffusing sea and sky to the horizon. The sultry air was rent by ear-splitting crashes of thunder.

Fire Island was barely distinguishable through the heavy clouds of ashes, and, when the revenue cutter arrived within ten miles, it was plainly observed that molten lava, rock, steam, and smoke, were being shot into the air from the centre of a salt-lagoon that had been formed on one spur of the island. Titanic forces were at work in the bowels of the earth beneath the sea-floor, creating a prodigious disturbance, generating tremendous heat and making a circling wind that could be felt for several miles distant.

The vast amount of red-hot lava emanating from the sea covered the *Tahoma* with volcanic sand and pumice. It was found necessary to hose-down the decks and to make for the

leeward of the island. At a distance of six miles the temperature was uncomfortably warm. From a distance of four miles, the island was photographed by Lieutenant Bagger. Streaks of red-hot lava and flame could be seen through the column of smoke, steam, and ashes, that ascended to an elevation of half a mile. The steam and smoke raised its head in billowy clouds, covering the heavens.

Far beyond was another pyrotechnic display, in which great masses of fire rose and fell, scattering sparks and hot rocks all over the island and into the sea.

Several weeks later, when the volcano had subsided, revenue officers found there an insecure footing on a land of hot ashes and baked mud, from the centre of which there spouted a large column of scalding water. The loud rumbling from beneath the surface made it necessary for the investigators to shout to each other in order to be heard for a distance of only a few feet.

In addition to the lava lying on the new-born land, evidence of the terrific heat was to be found everywhere. All over the island lay the skeletons of many birds, which had been roasted to death as they alighted upon the land to rest from their long sea flights. These bird skeletons, scattered in thousands along the rocks, were so affected by the heat and fumes that they disintegrated into a fine white powder the moment they were handled.

An effort was made to take a moving picture of Bogosloff in eruption, in 1911. A small schooner was chartered for the purpose, but with the perverseness and unreliability for which they are noted, the islands refused to erupt while the moving-picture camera and its operator were in sight.

Volcanoes are temperamentally hysterical, peculiarly impulsive, erratic and petulant. Just about the time that a photographer gets his camera focussed upon a harmless appearing

column of smoke, the crater is just as likely as not to heave a cough that sends thousands of tons of volcanic ash and rock scattering over the landscape. Nearly always a volcano can be depended upon to do the thing that is least expected.

Taking photographs of volcanoes for many reasons, most of which are obvious, is not always attended with success, but the pastime inevitably is productive of a certain degree of excitement.

Besides the spectacular Bogosloff volcanoes, there is "Old Moses," on Nunivak Island. He belches up a small stream of fire at all times and at all seasons of the year, but is not often excessively violent. "Old Moses" for a long time was used for a beacon-light by navigators sailing from the Northern Pacific Ocean into Bering Sea, but with the natural antipathy for doing anything useful that is manifested by almost every volcano, this old curmudgeon began to quench his fires in the spring and fall — the seasons when Unimak Pass is most used by vessels plying between Nome and Seattle. The government finally tired of his vagaries and erected a permanent lighthouse at this point.

Much of the history of the Alaskan volcanic zone has been written in the last few years, and a part of it has been preserved in the legends of the natives indigenous to this region. According to traditions of the Aleuts, Mount Chernarboro that is now known as St. Augustine, situated at the entrance to Cook Inlet, was inhabited a long time ago by a pair of beligerent gods.

One was the god of fire and one was the god of water. They became involved in a battle which resulted in the blowing off of the mountain-top and in a rain of flame and molten rock falling upon the domiciles of the people. Poor Lo was forced to seek a home upon the mainland.

Because of the advantages in otter-hunting that Chernar-

boro offered, that place again became the habitat of a large tribe of natives. After a slumber of many years the volcano awakened in many new places, tearing a side out of the mountain and throwing it down the hill to lodge with a crash upon the native village. Those natives who escaped never returned, and to this day their descendants will not inhabit this section.

Chernarboro for many years has given off a light smoke and sulphurous gas, but the volume of the smoke-cloud increased tremendously during the recent eruption of Mount Katmai. Far down the side of the mountain can be seen the tremendous chunks that were blown from its top and sides when the cataclysm of the native legends occurred. The top of the crater is marked by the bleached skeletons of many birds and animals that ventured too close to the poisonous gases.

Usually the crater is cold, but, once in a while, it gives a mammoth belch that is indicative of its old time strength. The legend of the natives is corroborated by old Russian charts made previous to 1825 which indicate that a navigable channel formerly existed between St. Augustine and the mainland.

Akutan Volcano, situated on Akutan Island, is a very busy little noise-maker. Like its kindred, it works spasmodically, lying asleep for a few days, weeks, or months, and then, when everyone is lulled to a sense of peace and security, arousing the neighbourhood and frightening the wits out of the native Aleuts by a riot of violent explosions that sound as though electric sparks were being contacted with bomb-factories. At each crash a puff of smoke ascends, and this descends later in a cloud of volcanic-ash.

Pogrumo, on Unimak Island, is more gentle, more refined in its actions. It acts like a well-trained, hand-fed pony, and is really a nice, clean, little volcano. It never becomes exceedingly violent, and never is so ill-mannered as to throw cinders over the beautiful, white robe of snow in which Nature keeps

it garbed. Nor does it indulge in the turbulent, ill-bred, paroxysms of coughing and belching that distinguish the manners of its less cultured kinfolk. Usually a slow, hazy, good-natured-looking wisp of smoke floats away from its cap — six thousand feet above sea-level — much resembling the product of a clear Havana rolling from the mouth of some lackadaisical giant who is too indolent to exhale a deep breath.

Pavloff, rising 9,000 feet above sea-level on the eastern end of the Alaska Peninsula, on the contrary, is exceedingly strenuous and volatile. It is the most violently active of all the Alaskan volcanoes. It is so unreliable and performs such unexpected antics, that it has become known as "Old Pop-off." The name aptly describes it. The only certain thing about this volcano is the uncertainty of what it will do next.

Unlike gentle Pogrumo, Pavloff in its fits of temper, musses up the landscape by scattering inky black and dirty grey ashes for miles around, much to the annoyance and discomfort of its neighbours — the Shumagin Islands. These islands, although sixty miles away, cannot escape from the grime and ash with which Pavloff pollutes the atmosphere. At the time when the New Bogosloff was born from the sea, Pavloff, as though voicing its disapproval and jealousy, became violently angry, and to the accompaniment of a long, crashing, cannonading, threw hot rocks, sand, lava and ash, into the air and all over the scenery.

Makushan, near Unalaska, plainly seen from Dutch Harbor, was discovered by the Russians. He is a more inveterate smoker than the late Mark Twain, once in a while stopping to get a fresh light — though not often nor for long. Close to his smoking mouth are large deposits of pure sulphur upon which considerable exploratory work has been done. Natives are afraid of him, but for an outrageous stipend of fifty dollars a day they will guide inquisitive visitors to the lips of his crater.

Makushan is surrounded by a number of pot holes beneath the snow. These are formed by boiling springs which burst up in unexpected places, and are a constant menace to the explorer. Iron-rods stuck into the ground near the mouth of the crater, become white hot.

Kupreanoff Volcano, situated at the head of Stepavok Bay, and named after an old Russian trader whose principal ambition in life — tradition says — was to make life miserable for the Indians, is unique. Its crater lies in the centre of a field of glacial ice, centuries old, and one may step in a few minutes from a point that is hotter than Panama to another that is as cold as the North Pole. The smoke and steam rises through the crevasses in the ice in a hundred different places, and as these steaming cracks are scattered over a wide area, the orifice of the volcano never has been located definitely.

Becharoff, on Becharoff Lake, near Cold Bay, is often reported by prospectors to be addicted to the smoking habit. But as it is somewhat isolated from the general line of travel, little is known about it, and the reports may be slanders.

Redoubt, situated on Cook Inlet, is another volcano that has a deplorable predilection for springing into violent activity at unexpected moments. It not only emits much sulphurous smoke itself, but it causes mail-carriers and "mushers" to emit much sulphurous language. It is about 2,000 feet high, and usually puffs out light harmless clouds. Every once in a while, however, something goes wrong with its digestive organs, and then it throws up tremendous masses of ash and sand which settle on the snow and make sleighing almost impossible — hence the avalanches of lurid language from the "mushers." During the recent slight unpleasantness, when the top of Mount Katmai was blown to smithereens, Redoubt became disagreeably active and scattered volcanic matter for several miles around.

Illiamna, with three distinct volcanoes, towers 10,000 to 12,000 feet above sea-level. It is adjacent to Cook's Inlet, but, as it offers nothing in the way of mineral to the prospector, it never has been thoroughly investigated. Mount Illiamna was in violent eruption in 1854, at which time it discoloured the landscape by depositing volcanic ash and pumice over the contiguous country. The name is said to be an old Russian word meaning "monument." The natives declare that Illiamna is the home of a monstrous fish which lives part of its time in Lake Illiamna, and part in the mountain. They believe this leviathan is ever on the watch to catch the unwary prospector or fisherman. As an illustration of the truth of their legends, they know of many Indians and some white men who attempted to cross the lake and never returned. The lake is the largest body of fresh water in Alaska. It frequently is swept by terrific gales. It is eighty miles long, and eight to ten miles in width — somewhat larger than Long Island Sound.

Although its surface is only fifty feet above sea-level, it is several hundred feet deep, and in some places the bottom has not been found. Lake Clark, with which Illiamna is connected by a small stream, is more than fifty miles long but very narrow. The surface of Lake Clark is 220 feet above the tides but it is more than 600 feet deep. It is believed that both lakes, originally, were formed by volcanoes burning out the inside of the mountain and allowing the walls to collapse.

Douglas is a peculiar volcano, situated near the entrance to Cook Inlet, and belching up from beneath a number of small glaciers — about the size of those found in Switzerland — it resembles a South Sea squid. Its black tentacles of lava extend down the hillsides of bluish-white ice like the feelers of an octopus. It is one of the most reliable, steady smokers in the business and is not afflicted, generally, with convulsions.

There is a small active volcano on Attu Island, the eastern-

most piece of land on the Aleutian Chain. The few poverty-stricken natives living there, who are visited occasionally by traders and revenue cutter men, seem unafraid of it.

The Aleutian Islands are all more or less of volcanic formation, but the smoking volcanoes — as has been shown — are by no means limited to the islands. There are hundreds of cold and dead craters throughout this section of Alaska and, as they are a somewhat uncertain quantity, they may awaken and give a fire-works show for the edification of the natives at almost any time.

It is certain that beneath the Northern Pacific Ocean many subterranean fires are burning, and there are those who believe that this condition ultimately will be the means of linking the American continent to Siberia.

Bering Sea, the charts show, gradually is becoming shallower. While this in some cases is due to subterranean activity, there is no doubt that the heavy deposition from the glacial streams have considerable to do with this result.

The bottom of Bering Sea is a level valley, covered by only a few fathoms of water. It is not beyond the possibilities of Nature that a subterranean upheaval is liable to raise the present sea-floor to water-level and thus make one continent stand where two stood before.

CHAPTER XXVII

THE COST OF LIVING IN ALASKA

Meal prices vary according to location — Cheap in accessible places — Transportation problem is important factor — Prospectors depend on country's resources for subsistence — Cabinet officer given dinner composed of game, wild berries and vegetables.

THE high cost of living in Alaska despite a general impression to the contrary — is not a more difficult problem than in other parts of the world. The cost of living in the North is purely a matter of location. In those places in Alaska which are easily accessible, food stuffs are sold at about the same price, plus the freight, as in the States. Meals are sold at Juneau, Skagway, Seward, Cordova, Valdez and other points along the coast at a slight advance of the prices that prevail in the leading cities on the Pacific seaboard farther south.

The food problem and the transportation problem are inseparably linked. Where freight charges run up as high as \$200 per ton, it is to be expected that the food prices will be proportionately altitudinous.

There is one other factor, though, that plays a part in the problem in so far as inaccessible districts are concerned. This is the wild game and fish which the country furnishes. In places where moose, caribou and deer are plentiful, the prospectors dry large quantities of meat in the winter season for use the following summer, when most of their time is devoted to searching for mineral. In places where there is a scarcity of large game, there always is an abundance of ptarmigan or spruce-hens in the winter, and myriads of ducks, geese, snipe,

and other game birds in the summer. These are pickled or made into sausage to be eaten during busy seasons.

Many prospectors and explorers have been known to travel thousands of miles in Alaska with nothing more than a rifle, a sack of salt and plenty of ammunition. Several years ago, together with a number of others, I lived for nearly six months at the headwaters of the Mackenzie River, and we had little other food than moose meat. We were in a country that was untravelled by either white men or Indians, and naturally game of every kind was plentiful.

The amount of moose meat that a healthy man will eat in a cold country, when he has little or no other food, is almost beyond belief. The appetite seems insatiable. In the cabin in which I lived with four others, we cooked, every day, a copper-kettle the size of a five-gallon oil can filled with moose meat. We ate moose steaks for breakfast and roast or baked moose meat for dinner. The boiled meat we consumed between meals. We had coffee, tea, a little rice — about enough for a few spoonfuls each, once a week — a little flour of which we made gravy and an occasional loaf of bread, and an abundance of salt. In long journeys on snowshoes, or over the trail in the spring, we chewed dry moose meat between meals. Cream, sugar, butter, eggs, bacon, and potatoes, were delicacies that we remembered having tasted away back in the dim and misty past. This bill-of-fare was continued for six months, less four days. There never was a night nor day during that time that we did not awaken with ravenous appetites and go to bed with our hunger unappeased. It seemed to me that a man might eat all the moose meat in the world and still be hungry.

Strangely enough this had a beneficial effect upon our constitutions. We were all more or less affected with slight stomach troubles, but otherwise in perfect health, many of the party

performing feats of endurance that would have won honours in a Marathon race. Near us were camped two other parties, making a total of fourteen in all. The stout men became lighter, and light men increased their weight proportionately. I was heavier by twenty pounds when I finished that journey than I ever have been before or since.

As it was with us, so it has been with hundreds of other prospectors in Alaska. In places inaccessible, where "white man's food" is scarce, that good old provider, Nature, steps in and fills the void. I have eaten many meals in Alaska, the edibles for which were the products of the country, and found them just as palatable as the cuisine of the best hotels in large cities.

In the summer of 1911, with Walter L. Fisher, Secretary of the Interior; Walter E. Clark, Governor of Alaska, several scientists connected with government bureaus and a number of newspaper correspondents, the writer made a journey along the coast of Alaska. We were introduced to a keeper of a road-house at Kern Creek, 71 miles in the interior from Seward, who undertook to give the cabinet officer a gastronomic demonstration of the products of the country. The components of the bill-of-fare, with the exception of bread, coffee and sugar, were locally grown under cultivation or culled from the adjacent woods where they grew wild.

The dinner was served in a log building, in which had been placed a long table made of boards cut from the forest. The table was covered with snowy napery and adorned with exquisitely-coloured and fragrant wild irises, forget-me-nots, bleeding hearts, poppies, butter-cups, daisies, anemones, geraniums, bluebells, blue and yellow violets, and many other floral specimens which grow in such riotous profusion in Alaska's woodlands.

Owing to an oversight on the part of the shipping agent at

Seward, the crab cocktail which headed the bill-of-fare was eliminated. The meal began with Indian relish, pickled cucumbers, beets, onions, celery, radishes, green onions and a few other edibles of that character. The guests disposed of portions of moose nose bouillon, and then proceeded through a fish course of mountain and rainbow trout, taken from a near-by stream, and Arctic greyling, another delicious fresh-water fish served with wild parsley sauce. Then followed salmis of wild young mallard and sprig-tail duck, roast breast of ptarmigan with wild currant and wild gooseberry jelly, roast breast of spruce hens, or grouse, garnished with wild huckleberry and wild high-bush and low-bush cranberry jelly. After those appetisers had been disposed of, the real business of eating began.

Came boiled shoulder of wild mountain sheep with wild onion sauce; roast saddle of mountain goat, roast haunch of caribou, roast tenderloin of moose. These were eaten with wild red and black currant, wild gooseberry and other jellies, cottage cheese was interspersed, and bottles of currant, cranberry and blueberry wines were placed at the elbow of each guest. The native grown new potatoes, turnips, beets, cauliflowers, Brussel sprouts, parsnips and other vegetables were served in side dishes with the different courses as the meal progressed.

Razor-edged appetites with which the guests had arrived, long since had been appeased, and they began to speculate on the utility of rubber waistlines. They hoped the roadhouse keeper would serve the coffee. But he was not accustomed to entertaining a member of President Taft's cabinet, and he seemed imbued with the idea that the appetite of the visiting official should be in proportion to the dignity of his position in the world of affairs. He didn't intend that the tender-footed crowd of "chechacoos" should go back to Washington and other large cities in the eastern part of the United States

and tell their friends they had been unable to get anything to eat in the Alaskan wilderness.

His neatly dressed and white-aproned waiters brought on a delicious salad composed of chopped wild celery, onions and parsley, with just a suggestion of wild sour-grass or sorrel, and smothered in mayonnaise made from wild goose and duck eggs gathered from near-by lake shores and marshes. The hard boiled eggs which formed a part of the salad were taken from his poultry yard at the back of the hostelry.

Everybody fervently hoped that the end of the Alaskan resources had been reached. But that roadhouse keeper insisted that we at least taste of his dessert. A wealthy epicurean would surely give a lot of money for an appetite such as that roadhouse keeper seemed to think we possessed.

In came the waiters again, laden with pies and tarts filled with wild rhubarb, wild raspberries, wild gooseberries and red and black wild currants, and bowls of delicious, thick whipped cream.

"Well, he's reached his limit now," was the innermost thought of every one.

"This is where he hands out the cigars and black coffee," commented Robert D. Heinl, a correspondent for *Leslie's Weekly*, who was a member of the party. But he was mistaken. Back came that roadhouse keeper and his waiters. His hospitality was unbounded.

"Won't you try a few of these wild strawberries, wild salmon berries and wild currants with a little of this whipped cream?" he said. "They're delicious," he tempted. "I eat 'em myself."

We protested, but as guests we had to be agreeable. Even that wasn't the end. Once more he and his waiters returned with bar-le-duc, crackers, cheese and coffee.

"I'm all out of cigars," he apologised to Mr. Fisher.

"That shipping agent fell down on me. But there's some pretty good chewing tobacco here, if any of you would care for it."

This performance with variations was repeated in other places along the line we travelled, and the cuisine for a dinner given by President O. L. Dickeson, of the White Pass and Yukon Railroad, being distinctly Alaskan, even to the bill-of-fare which was printed on the tanned skin of a wild goat.

And yet there have been isolated cases where men starved to death in Alaska, and there was one case in which cannibalism was attempted. James Hall, a miner, in 1900, became lost on the tundra adjacent to Nome for a period of sixty-seven days. He had neither shot-gun nor other weapon. He subsisted on wild berries. He was in a starved and badly emaciated condition when found.

In the winter of 1911-1912 several hundred miners were situated in the Iditarod diggings. Owing to some unforeseen circumstance, the fresh meat did not reach the settlement before the freeze-up, which cut them off from the usual source of supply for the ensuing seven months. There are no moose or caribou in that section of the country; the ducks and geese had gone South; the few bears had "holed up" for the winter. Ptarmigan and grouse were scarce. The last fresh meat in the camp was eaten for Thanksgiving dinner.

Did those miners go without meat for Christmas and the balance of the season of isolation? Not while any of their number had any power of initiative left. Several of them walked to a reindeer station on the Kuskokwim River, about one hundred miles distant, and drove in a herd of animals which they purchased from one of the missions.

The cost of a meal to a traveller in Alaska is entirely dependent on the location. In places to which food is easily transported, the price is little higher than in Seattle. Meals

are served at Nome at only a slight advance on the "outside" prices, but at Iditarod, not more than seven hundred miles away from the Bering Sea metropolis, the cost of food is from 100 to 200 per cent. higher. A copy of a paper, published at Iditarod, October, 1911, gives the following prices, which it was expected would prevail during the winter months.

Flour, hundred pounds.....	\$10.00
Rolled oats, hundred pounds.....	10.00
Potatoes, bushel	8.00
Oranges, dozen.....	1.25
Corn, best, three cans for.....	1.00
Apples, dozen.....	1.00
Prunes, dried, pound.....	.25
Cornmeal, hundred pounds.....	10.00
Bacon, pound	.40
Ham, hundred weight.....	37.50
Fresh beef, pound.....	35 to .75
Chicken, pound	.75
Eggs, dozen	.75
Coffee, pound	.62
Milk, can	.33
Oats, pound	.07

Compared to the charges for the same commodities in the United States, these prices would rather tend to discourage complaint about the high cost of living. The reason for the high tariffs at Iditarod was not because of its isolation but because of a lack of roads, and a consequent heavy cost of transportation. On Flat Creek, which is only seven miles distant from the town of Iditarod, the tariff on everything was increased fifty dollars a ton, which was the cost of freighting supplies from one point to the other.

The tourist in Alaska, if he is on the regular line of travel,

may depend on being asked to pay a slight advance on what he would be charged for the same accommodations in New York. If he is off the regular line of travel, the price will be graded according to the distance and the transportation facilities. If he is very far off the regular line of travel, where there are only a few white men, it may happen that his meals will not cost him anything, for in that case, the chances are that the men he will meet will be dependent upon the resources of the country for their subsistence, in which case their hospitality will be as prodigal as the hospitality of the territory itself.

CHAPTER XXVIII

DISCOVERY AND EARLY HISTORY

Vitus Bering, Danish navigator credited with being discoverer of Alaska — Dr. G. W. Stellar, scientist, first brings before public the vast resources of an empire that is now in the making — Atrocious depredations of early freebooters, fur-hunters and traders of the frozen North — Barbaric savagery practised by Russian pirates.

TO Vitus Bering, a Danish navigator holding a commission in the Russian Navy — according to the best authorities — belongs the credit for the discovery of the territory now known as Alaska; but to Dr. G. W. Stellar, a scientist who accompanied him, belongs the credit for the discovery that Alaska possessed latent resources of economic importance.

In 1728 Bering discovered and named St. Lawrence Island. On July 18, 1741, in command of another expedition, Bering sighted Mount St. Elias, and some days later he made a landing at Kayak Island, near Controller Bay. Many of the sailors having contracted scurvy, Dr. Stellar was sent ashore to search for herbs that could be used medicinally. Bering's log reported the new land to be arid, sterile, and perpetually frozen. Two years later, however, when Dr. Stellar's account of the expedition was published a different picture was drawn. Stellar told of finding many edible berries and floral specimens, among the latter being the forget-me-not, which since has been adopted as the floral emblem of the territory.

The conflicting reports produced a controversy not unlike the North Pole embroglio of recent times, and, at intermittent

periods, that section of Alaska where Bering landed has been a cause of controversy ever since. The violent storm which broke loose soon after Bering's landing and caused him to summon Stellar back to the ship before he had completed his observations, was prophetic of many other disturbances that have pertained to that region in recent years.¹

On his second voyage of discovery in 1741 Bering was accompanied by Chirikoff, who commanded another ship. Shortly after leaving Oskosh Peninsula the ships became separated by strong winds and heavy seas, and the two commanders never met again. Chirikoff sighted the Alaskan Coast on July 15, 1741, and dispatched a boat and a crew of men to the shore. They did not return, and the next day he sent another crew ashore. These men met the fate of those who had preceded them. Authorities disagree as to the number of men killed. Some say that all of those who went ashore were murdered by the natives, while others declare that only two-thirds of the boat crews were clubbed to death. It is certain, however, that Chirikoff, having no more boats, put to sea and returned to the Asiatic Coast, sighting many of the Aleutian Islands en route.

Bering's journey ended disastrously. Leaving Controller Bay, he continued westward along the line of the Aleutian Islands, of which he gained but a superficial knowledge. Scurvy and other diseases continued to break out among the

¹ In 1911 Controller Bay was the basis for a political storm which prevailed at Washington over the elimination of certain shore lands from the Chugack forest reserve. In May of the same year, the citizens of Cordova dumped a quantity of Canadian coal from the wharf as a protest against land regulations which compel them to buy fuel from a foreign country when there was an abundance of it almost under their feet. This incident, which directed widespread attention to the most vital need of the time in the territory, has gone down into contemporary history under the significant name of the "Cordova Coal Party."

crew. The commander himself was stricken, and, for several days, his vessel drifted around the North Pacific, sailing first one direction and then another without an objective point, and finally was blown ashore on Bering Island. The commander and several of his men there died of scurvy, starvation and exposure and were buried in a trench dug in the frozen earth. The survivors constructed another craft from the wreckage of their vessel and the following summer reached Kamchatka, from which place they reported the disaster to the Empress Catharine at St. Petersburg. The rude cross on the Island which marked the grave of Bering and his unfortunate companions, was the first emblem of the extension of Russian sovereignty beyond the western coast of the Pacific Ocean.

While former voyages were not fruitful of results commensurate with the elaborate preparations made, the explorations conducted by Bering and Chirikoff were of considerable importance from a geographical standpoint. Two points on the American continent were fixed with a fair degree of accuracy and the location of some of the Aleutian Islands were established.

The explorations of Alaska were made from three directions — from the west by the Russians who crossed Siberia and Bering Sea; from the east by the English, through the Mackenzie River Valley; and from the south by navigators of various nationalities exploring the eastern shore of the Pacific. While the French voyageurs and their successors from Great Britain were approaching Alaska from the eastward, the Russians had crossed the Ural Mountains and gained the western coast of Siberia, where they had established trading relations with the Eskimos who inhabit that country.

Yermac Timofeief and a band of Cossack adventurers are said to have been the first to cross the Ural Mountains and commence the conquest of Siberia. In 1906, a coat of mail,

made of pieces of steel roughly lashed together with rawhide throngs, and a helmet were found near Anadir Bay, Siberia, by a party of American miners who had gone into that country under a concession held by the Northeast Siberia Company. These articles, together with a few old coins, were found buried beneath several feet of gravel. It is believed they were originally the property of Timofeief or Deshnef, both of whom entered that country about the year 1648. Deshnef is reported to have reached the mouth of the Kolyma River, which flows into the Arctic Ocean north of East Cape. In 1648 Deshnef sailed through what is now known as Bering Strait.

The progress of the Cossack adventurers up to this time had been — excepting for the physical condition of the country itself — comparatively easy. The natives were peaceful and easily subdued, but south of East Cape the Cossacks met the warlike Chuckchees who gave them many hard battles.

More than a half century elapsed before these Siberian explorations were extended, when in 1711, another Cossack, Popof by name, was sent to East Cape to collect tribute from the native Chuckchees, who refused to acknowledge the sovereignty of Russia. Popof's mission was unsuccessful in that respect, but he returned to St. Petersburg with an account of the existence of the Diomedé Islands, between which now lies the dividing line of American and Asiatic water, and rumours of a continent lying to the eastward.

Peter the Great immediately ordered the organisation of an expedition to investigate and verify Popof's statement and extend their explorations, Vitus Bering, fleet captain in the Russian Navy, being placed in command. The Emperor of all the Russians did not live to see his plan executed, but his wishes were carried out by the Empress Catharine.

On his first journey in July, 1728, Bering sailed from East Cape through the Strait which bears his name, stood to the

northeast for a day, and then returned to his point of embarkation without having sighted the American continent. Although Bering believed this short voyage was important, inasmuch as it definitely proved the absence of an eastern connection with Asia with North America, his evidence was so meagre that other nations refused to accept it, and it was not until Captain James Cook's voyage, half a century later, that convincing proof was obtained.

In 1731 a Cossack named Gwosdef, who had been sent in command of a small fleet to subdue the Chuckchees, was blown ashore on the American Continent, near Norton Sound. He made his way back to Siberia in an open boat.

Bering made a second voyage in 1729 but it proved barren of results. The interest excited by the discoveries accidentally made by Gwosdef, confirming the native rumours of the existence of a continent to the eastward, caused the organisation of the big expedition commanded by Bering and Chirikoff. This expedition resulted in the definite discovery of the territory which more than one hundred years later was bought from Russia by the United States and which since has proved one of the best real estate bargains in the history of this nation.

Following Bering's discovery a horde of fur hunters and traders built primitive ships on the east coast of Siberia and, in these frail vessels, embarked on many hazardous and fool-hardy enterprises. These roving and marauding freebooters depended largely for subsistence on such food as could be obtained from the sea. All of the iron necessary for shipbuilding on Bering Sea had to be transported across the country from St. Petersburg, and a craft was devised that could be constructed without metal, the planks being sewed together with rawhide thongs.

These vessels — ill-equipped, scantily-provisioned and manned by crews with little knowledge of seamanship — were intrepidly sailed into the unknown seas by their commanders and crews,



Photo by Callarman.

GARDENING IS ONE OF THE PRINCIPAL FORMS OF RECREATION AT SKAGWAY



Photo by Callarman.

ELDRED ROCK LIGHT, GASTINEAU CHANNEL

many losing their lives by wreck, starvation and scurvy, and many meeting deserved death at the hands of the outraged natives. The risks were great, but, when the expeditions were successful, so also were the profits.

The first white residents of Alaska were men who had few, if any, other virtues than physical courage and energy. The mastery of the Aleutian Islands and portions of the Alaskan coast is a chapter of ruthless murder and rapine that ever will remain a blot of shame on Russia's record. The natives were reduced to a condition of practical slavery, and in many places, the sands were stained with their innocent blood.

Firearms in the hands of the invaders gave them a tremendous advantage over the helpless natives whose weapons of defence were bows and arrows and spears tipped with bone. Some of the forts built by the Russians are still in existence, one of them being at St. Michael.

The Aleuts, at first friendly to the murderous strangers, soon ascertained their true character, and, although not so warlike as other Eskimo tribes of the North nor as prone to defend themselves as the Haidas and Thlingits of southeastern Alaska upon whom the Russians later attempted to levy tribute, they did not give up without resistance. Many times they wrought a bloody reprisal on their oppressors, but their struggle was hopeless; and in the half century which followed Bering's discovery, ruthless and barbaric savagery was practised by these Russian pirates to such an extent that it threatened to exterminate the aboriginal population of the islands and mainland.

The privilege to plunder and murder the natives at will was not openly sanctioned by the Russian authorities, but that government was ready enough to exact tribute on the furs and other valuables taken from the unfortunate natives. An orgy of murder, torture and outrage followed the visit to these shores of almost every Russian trader, but the death cry of the

unfortunate Aleut never reached St. Petersburg. It was through these murderous gangs of barbaric traders that the civilised world gained its first definite knowledge of the territory of Alaska. The country was born in travail and suffering, injustice and wrong, and, to a much lesser extent, the same conditions have existed almost ever since.

The court of St. Petersburg, beyond the exaction of tribute on furs, paid little heed to its possessions on this continent for more than half a century after Bering's discovery. During this period two attempts at official investigation were made, but the net result of both was practically nil. In 1767 Lieutenant Synd of the Russian Navy was sent to explore the American coast, and, though the results of his explorations were meagre and his statements unreliable, there seems no doubt that he landed on Seward Peninsula somewhere south of where the Nome gold fields are now located. About this same period Captain Krenitzin reached the Alaska Peninsula on a similar mission.

While Bering's explorations had discovered what is destined to become a new empire, yet for more than a third of a century later, when English and Spanish navigators were on this coast, Russia had made no permanent settlement in Alaska. True, the Romanoffs had developed the lucrative fur trade at the cost of many thousands of innocent lives, but it had made no attempt whatever to exploit many of the resources of the main continent. The traders first established the location of the Aleutian Islands and Kodiak; Krenitzin had determined a few positions in the eastern chain of the islands and along the south coast of the peninsula. These, together with Bering's discovery and the acquisition of a little knowledge of the mainland lying adjacent to Bering Strait, comprised the sum total of the Russian official investigation in North America prior to the advent of men of other nations.

CHAPTER XXIX

BRITISH AND SPANISH EXPEDITIONS

Spaniards contest with the Romanoffs for conquest of newly discovered territory—First white settlers to colonise Dutch Harbor and Unalaska—Fierce warlike people baffle attempts of early settlers—Regarded as invaders and unlawful intruders by Russians—Vancouver supplements work of explorers by exhaustive geographical observations.

ABOUT the time that the Romanoffs were extending their influence over Alaska from the west, the Spaniards began to approach it from the south. Eager for the conquest of new lands, Spain, which was then at the zenith of its fame as a colonist, already had settled in California, and reports of the Russian encroachments in the North caused the Viceroy of Mexico to send out several expeditions to explore Alaska's coast and the adjacent islands, the commanders being instructed to plant the arms of Spain where they found the country uninhabited save by the natives. Perez, a Spanish ensign, discovered Queen Charlotte Islands in 1774, and the following year Lieutenant Bodega y Quadra reached Cross Sound.

Immediately following the American Revolutionary War, Captain James Cook, a famous British navigator commenced the first systematic survey of Alaska, his departure from England being almost coincident with the signing of the Declaration of Independence at Philadelphia in 1776. After mapping portions of the continent of South America, Cook spent a winter among the Sandwich Islands and then sailed to the north, making his first discovery of the Alaska coast in 1778 near

Mt. Edgecumbe, which had been sighted by Quadra four years earlier. Cook sailed thence to the westward making systematic observations on Prince William Sound and Cook Inlet and later going to Dutch Harbor and Unalaska, where he was hospitably received by the band of Russian traders, who were the first white settlers in this particular region. It is worthy of note that John Ledyard, an American, who accompanied Cook, was the first man to interview the Russians.

Entering Bering Sea, Cook continued his surveys northward through Bristol Bay, Norton Sound, and Bering Strait where he first encountered the Arctic ice pack. He skirted the ice floes to the westward until he found a promontory where the ice was fast to the Siberian mainland, which point he named Cape North. He then returned to the south along the Siberian coast, making careful observations on the way. This famous navigator spent the winter in the Hawaiian Islands, where, together with a number of his intrepid companions, he met his death in a fierce battle with the Kanakas. Captain Clarke then took command of Cook's two vessels, and the following year set out to extend his surveys further north; but, again encountering the Arctic ice pack, was forced to return without having penetrated much further north than Cook had gone the previous year.

While Cook had been unsuccessful in discovering the northeast passage to Hudson Bay — which was traversed by Roald Amundsen from the eastward in 1904-06 — the British navigator, from a scientific viewpoint, had enormously increased the knowledge gained. Besides definitely establishing the fact that there was no land connection between Asia and America, Cook outlined and mapped the large coastal features of Alaska from latitude 58° north to 70° north, and added considerably to the world's exact scientific information concerning the contour of the coast line in latitudes to the southward. He also

convinced himself of the futility of British expectations of the discovery of a navigable sea to the northward of the continent of America, which the Britishers hoped to find in order to give themselves a shorter route to India. The expectation of discovering this northern waterway was based on Hearne's exploration, in 1771, from Hudson Bay to the mouth of the Copper Mine River. This result was not generally acknowledged, and it remained for one of Cook's officers, Vancouver, to bring the final proof of the accuracy of Hearne's observations about fifteen years later.

Cook, besides contributing largely to the knowledge of the geography of the Alaskan coast, was responsible for the inauguration of a new era in the explorations of the seaboard of that country. Vague and haphazard reports of previous explorers were replaced by concise charts and accurate observations, many of which stood the test of more detailed investigation. His work was continued after his death by several officers who accompanied him on the first fateful expedition and who were trained in his methods.

Though some of the Russian traders had reached Kodiak as early as 1762, it was not until after Cook's voyage that, finding sea otters were becoming scarce in the seas adjacent to the Aleutian Islands and the trade less profitable, they began to seek new hunting grounds to the northeast.

In 1781 a company of Eastern Siberian merchants was formed to exploit the American fur trade, the leader of this organisation being Gregor Ivanovich Shelikof, who, with Ivan Golikof, was the first to use the commercial methods so popular to-day, these two holding a majority of the stock. An expedition was sent out in 1783 under Shelikof's command and founded a colony at Three Saint's Bay, on the southerly end of Kodiak Island. This was the first settlement within the limits of Alaska, and was the pioneer of the Russian occupation. It

was maintained for three-quarters of a century, until the territory was transferred to the United States. Many of the relics of Russian occupancy of Kodiak Island are still visible, amongst them being a warehouse with a stone foundation, which is said by old settlers to have been constructed by the enslaved natives and Russian prisoners.

At the time the first Russian Colony was founded, several trading vessels, commanded by Potan Zaikof, invaded Prince William Sound. The same barbarous savagery which had been so successful in subduing and pillaging the Aleuts was instituted, but Zaikof and his followers found to their cost that they were dealing with a fierce, warlike people, and, after many dramatic and sanguinary incidents had been enacted, the expedition ended disastrously.

Nagaief, a member of the party, discovered the Copper River and ascended it as far as the Miles and Childs Glaciers, between which ice masses the stream is now spanned by a bridge constructed by the Copper River and Northwestern Railroad.

In the meantime the published account of Cook's voyage brought the territory into international controversy. His records being regarded as absolutely authentic, they aroused cupidity in the breasts of nations who realised that the rich fur trade of the North American continent rapidly was passing into a Russian monopoly. The English traders were the first to inaugurate an action which, in modern idiom would be known as "Busting the fur trust." James Hanna, in 1785, explored the west coast of Vancouver Island in British Columbia and made several voyages to the coast of Alaska. Similar expeditions were made by the English and American trading ships and crafts of other nationalities, their logs and chart tracts adding to the general knowledge of the northwest coast.

The new invaders were regarded as unlawful intruders by the Russians and many petitions protesting against foreign ships

engaging in this trade were sent to St. Petersburg, but without the desired result. While the traders of various nationalities were struggling for supremacy in the north, their home governments were not unmindful of the importance of Alaska from a commercial and strategic viewpoint. The British, Spanish and French governments manifested a more or less laudable desire to wrest some of this rich territory from the hands of the Russians, much the same as these and other nations quite recently have been demonstrating an inclination to portion out among themselves certain sections of China and of the continent of Africa. The English claims were based on the discoveries made by Cook and by those of his officers who succeeded him; the French suggested that the coast of Alaska was a part of the territory of Canada; the Spanish declared the country should be theirs, because it was a northern extension of their California coast line, and they also claimed title to Alaska by right of the discoveries made by Quadra.

Spain strengthened her claims by adding to Quadra's discovery an expedition led by Arteaga, with Quadra second in command, which sailed from Mexico in 1779 and surveyed Port Bucarrelí, on the west side of Prince of Wales Island. Later Arteaga entered Prince William Sound and, acting on instructions, took possession of what he believed was a newly discovered land. Neither he nor any of his lieutenants were aware of the fact that Cook had gone through the same ceremony, in the name of the British government, a year previous and on almost precisely the same spot. Arteaga and Quadra made a cursory exploration to the southwest as far as the southern end of the Kenai Peninsula, and then returned to Mexico.

The French, up to this time, had done nothing that entitled that country to lay claim to the territory; and to gain a more or less valid advantage, La Perouse, after whom one of Alaska's great glaciers is named, was dispatched to the north in 1785.

A year later he landed at Lituya Bay and took formal possession. Ignoring his instructions to survey the Aleutian Islands, he then sailed southward without again landing on the Alaskan Coast.

Apparently satisfied that the work done by Arteaga had established a right of sovereignty, the Spaniards took no further action for several years. The story of Cook's voyages and reports of numerous trading vessels that visited the coast, however, again aroused Spanish action. In 1788 two vessels, commanded by Estevan Martinez and Gonzales Haro, were sent to gather further information. While Martinez explored Prince William Sound, Haro visited the Russian settlement on Kodiak Island and obtained full knowledge of the Russian occupation. Delarof, who was then directing the Russian colonisation, while politely and cordially welcoming the visiting Spaniard, was very careful to fully impress upon his guest the vast extent and importance of the Russian settlements, of which, at that time, there were only six. Sailing to Unalaska, the Spaniards went through the absurd performance of taking possession, in the name of His Most Catholic Majesty, of Unimak Island which had contained a Russian colony and had been under Muscovite influence for upwards of a quarter of a century. They then returned to Mexico.

Martinez's report made it plain to the Viceroy of Mexico that Spanish claims to the territory, to be effective, must be enforced by more decisive action. Both vessels were, therefore, again dispatched to take possession of Nootka Sound, on the west coast of Vancouver Island, which had been discovered by Cook and later used as a rendezvous by English, American and Portuguese traders. The American ships were unmolested by the Spaniards, but vessels flying the English colours were warned off. This arbitrary action by Martinez brought forth an immediate protest by the British government and commis-

sioners representing both countries were appointed to adjudicate the rights of each. The commissioners held their meeting at Nootka, and, like many other peace conferences, the affair led to a disagreement and broke up in a row. The Spaniards, however, subsequently receded from their position and withdrew their forces, leaving the region in possession of the natives and traders.

Malaspina, an Italian navigator, was the next explorer to make futile claim to the territory on behalf of Spain. In 1791 he sailed north in command of two Spanish corvettes under instructions to make scientific observations and to encircle the globe through the northwest passage, rumours of which again were being circulated. He sighted land at Mt. Edgecumbe and, following the coast to the northwest entered Yakutat Bay, then known as Port Mulgrave, having been named after one of the officers who sailed with Cook. En route this expedition named the great Malaspina Glacier. Notwithstanding that Portlock and Dixon had surveyed and published a chart at Yakutat Bay some years before and that the Russians for many years had used it as a trading point, Malaspina went through the foolish ceremony of taking possession of this "newly discovered land." He visited Prince William and Cross Sounds and then sailed again to the South, apparently making no effort whatever to reach Bering Sea or to enter the Arctic Ocean, and forgetting all about his instructions to circumnavigate the continent.

George Vancouver, one of Cook's midshipmen, who was the British representative in the Nootka dispute with the Spaniards received orders in 1793 to survey the coast between the thirty-fifth and sixtieth parallel of latitude, a task which he faithfully executed in that and the following year. In command of two vessels, he accurately mapped thousands of miles of the coastline of Southeastern Alaska, supplemented the work of previous

explorers westward as far as Cook Inlet, and gave to the world a tremendous amount of knowledge relative to the coast-line of Oregon and Washington. His work stamps him as one of the most accurate and trustworthy explorers that history has ever known. Not an indentation of the mainland, and scarcely a break in the shore-line of the numerous islands escaped his observation. Even in this present day of steam propelled vessels and with accurate charts and maps to mark the course, it is no light task to thread the intricate waterways of the Alexander archipelago. That Vancouver could do so much work and make such extended and accurate surveys in the short time that he was occupied on the task would be regarded even in this day of modern nautical equipment, as little short of marvellous. Vancouver was a great navigator and a worthy successor of the famous Cook under whom he studied navigation and geodesy. When his report and maps were completed the coast-line of the mainland of Alaska, from Dixon entrance as far north as Cape Belcher, had been charted with a great degree of accuracy.

While the Russians and Spaniards were squabbling between themselves and at the same time, attempting to dispossess all other nations of commercial and territorial rights in the coastal zone of Alaska, an aggressive rival, the British, was steadily encroaching upon this region from the east. French voyageurs, in batteaus, by dog-team and other methods of transportation, following the route of the Great Lakes, had crossed half of the American continent long before the Russians had knowledge of the Aleutian Islands, and, about the time Bering landed Dr. Stellar at Controller Bay, Verandrye had reached the foothills of the Rocky Mountains near the headwaters of the Missouri River. Ten years later another pioneer trader established a post at the present sight of Calgary, Alberta, at the very base of the dividing range and less than five hundred miles from

Pacific waters. This post, like many others occupied by French pioneers, was abandoned when Canada passed under the domination of the English.

The English fur trade gradually was expanded to regions into which the French voyageurs had broken the trail, but the Rocky Mountain barrier, for a long time, marked its western limit. Alexander Mackenzie was the first to cross the summit and to introduce a new factor into the development of Alaska.

Mackenzie, a member of the Northwest Fur Company, a sturdy rival of the Hudson Bay Fur Company, by dog team and flat-bottomed scow ascended the rapid and sinuous Peace River from Lake Athabasca, then traversed the headwaters of the Fraser, and after crossing the coast range, reached Pacific waters in the vicinity of Queen Charlotte Sound. This journey, the first made across the continent north of Mexico, was accomplished in 1793, at the same time that Admiral Vancouver was making his memorable survey of the coast-line. It was the first step in the fierce rivalry which was destined to spring up between the two great competitors in the fur trade — the Russian-American and Hudson Bay Companies. Trading posts were later established on the Mackenzie River and, according to the traditions of the natives, the journey from these posts to Quebec and return occupied a period of seven years and was accomplished only with great difficulty and much hardship and privation.

Although Russia's previous official explorations had been distinguished rather for their failures than for what they accomplished, the authorities at St. Petersburg in 1785 determined to make one more effort. This expedition was placed under the command of Joseph Billings who, in the light of his accomplishments, seems to have been chosen more because he had been attached to one of Cook's ships, than because of any particular merit or experience of his own. Billings sailed from

Kamchatka in 1789, passed through Bering Strait, penetrated the Arctic Ocean to about latitude 69° and then returned to his starting point. In 1790 he made a second start, and the two vessels of the expedition after stopping at Unalaska and Kodiak — both of which places already were occupied by Russia — reached Prince William Sound. Then he returned again to the point of debarkation. In the following year he made a third start, once more reaching Unalaska, whence he sailed northward touching at Pribilof Islands, Seward Peninsula, and St. Lawrence Island all of which places had been visited by other navigators. Billings himself subsequently landed on the Chuckchee Peninsula, Siberia, whence he made a hazardous, and apparently fruitless journey into the interior. His two vessels wintered at Unalaska Island and returned home the following spring. This expedition, which cost seven years of time and many thousand of roubles, accomplished nothing except to gain some information as to the manner in which the natives had been abused, and, in some cases wantonly slaughtered by the savage and ferocious Russian traders. The report, however, was not productive of any amelioration of the conditions of the oppressed people.

CHAPTER XXX

OCCUPATION BY THE RUSSIANS

Growth of Russian fur trade—St. Petersburg takes cognisance of disorders and outrages committed between rival companies—Warlike Thlingits refuse to submit to Russian occupation—Romance combined with history, how a beautiful princess held subjects in spell—Her untimely end—How Rezanof wooed, won and lost the Governor's daughter.

IMPORTANT changes in the Russian fur trade took place in the last two decades of the eighteenth century. The Shelikof Company, after its settlement at Kodiak in 1783, gradually extended its trading occupations to the mainland and neighbouring islands. By imperial ukase this company, in 1788, was given exclusive control of the regions actually occupied by its agents, and in 1792 another important step was taken when Alexander Andrevich Baranof was appointed chief director of the company's American interest. Baranof held this post for twenty-five years, during which time he demonstrated himself to be a far-sighted, energetic man, but, of course, unscrupulous and arrogant to the last degree. Stormy scenes greeted his inauguration in office and they were a fitting introduction of the events to follow.

Rival traders had established themselves at Cook Inlet, where for many years they quarrelled and fought among themselves, but finally united in opposition to the common enemy, the Shelikof Company. Baranof—after the manner of some American people of the present day—assumed an authority which he did not legally possess, and arrested and imprisoned the ring-leaders of the opposing forces, thus restoring some

measure of peace. That Baranof's life was often threatened and that he took no unnecessary chances of losing it was evidenced in the fact that a coat of chain mail, which he wore constantly, was found in his castle at Sitka.

The "iron governor" sent an engineer named Semoyloff to make an investigation of the Copper River Valley. Together with his companions, Semoyloff ascended the stream as far as the Miles and Childs Glaciers. Here the party was set upon by Indians and ruthlessly murdered. The chief of the tribe took Semoyloff's note books and effects back to the mouth of the river and delivered them to some of the explorer's companions, who had been left in charge of a supply station that had been there established. The chief informed these men that he had not wantonly murdered Semoyloff and his party, but had simply executed them in retaliation for outrages committed by other Russians. This incident appeared to be an unpleasant memory with Baranof, and it is said of him that he never relaxed his discipline of the natives or his watchfulness for his own safety.

While Baranof was energetically looking after the interests of his company in other directions and vigorously pushing the fur trade, a shipyard was established on Prince William Sound and attempts were made at agriculture and stock raising at Kodiak and Yakutat Bay. Prospectors, who, in 1900, were sinking a shaft on Prince William Sound encountered a stratum of wooden chips nearly three feet thick and thought at first they had discovered a new geological marvel. Although they could find no traces of its former existence above the surface of the ground, they later learned that their shaft was located on the site of the abandoned shipyard. The first Greek Catholic missionaries arrived from Siberia in 1794 and the same year the first convicts were transported from Russia and settled at Yakutat Bay. Few traces of Russian occupation at this point

can now be found, the site of the old settlement being occupied by a salmon cannery. At Kodiak, however, many of the buildings erected by Russian convicts and enslaved natives are still in existence. It is worth noting, too, that a large percentage of the natives who now live at these places bear strong traces of partial Russian ancestry, many of them being almost as fair complexioned as Anglo-Saxons.

At the close of the eighteenth century the court at St. Petersburg began to take cognisance of the disorders and outrages committed by the irresponsible fur traders and the authorities became weary of the quarrels between the rival companies. They were also desirous of maintaining Russian prestige in America by responsible representation, and it was the action then taken that later enabled Russia to sell the territory to the United States without a dispute involving the claims of other countries.

The Shelikof Company which had strong financial backing in Europe was given a new charter under the name of the Russian-American Company. The imperial proclamation which established this company, dated 1799, granted this corporation exclusive privileges of trade and occupation of Northern America north of latitude 55°, and including the Aleutian Islands. By two extensions of time the grant was continued sixty years. From this time until the transfer of the territory to the United States, the history of the company is the history of Alaska. The region now being definitely in the hands of the Russians and the limits of the possessions of both countries being determined by treaty with England in 1825, other nations decided there was no chance to participate in the "melon-slicing" and discontinued their explorations. While the Russian-American Company was too deeply engrossed in making profits from the resources of its grant and the furs brought in by the natives to attempt explorations or surveys, its trading

agents greatly enlarged their field of operations and gained some knowledge of new areas. Trading posts were located at various places in Southeastern Alaska, and, in 1799, Fort Archangel Gabriel was built on the shores of Sitka Bay.

Contrary to Russian expectation, the warlike Thlingits of this region did not submit to Russian transgression as did the Aleuts and, during the entire Russian occupation, they proved themselves aggressive and formidable enemies, many times shooting down the Russian agents from ambush in reprisal for the murders of their people.

The Thlingit law is based on the Mosaic doctrine—"An eye for an eye, a tooth for a tooth." In 1802 they attacked and destroyed Fort Archangel Gabriel and practically wiped out all of the Russian settlers. A few survivors were saved only by the timely arrival of an English vessel. Two years later Baranof attacked the Thlingits with forces brought from Kodiak and drove the natives out of their stronghold at Sitka, of which he took possession. About a year later he moved the capital of the colony from Kodiak to this post, which he named New Archangel. Here he established himself as governor of the entire territory and built a castle in which to live. It was here some few years later that a Princess is supposed to have reenacted the story of Romeo and Juliet by killing herself in a moment of grief over the death of her lover.

The truth about the fate of this beautiful Princess is buried in conflicting traditions, but it is the general consensus of these legends that for many years she haunted the northwest chamber of the castle, in which apartment she either was murdered or committed self-destruction. Twice a year the swish of her ghostly wedding gown is supposed to have chilled the listeners' blood, as she unceasingly walked through the rooms, wringing her jewelled hands. At Easter time she wandered with sorrowful and lachrymose mien about the old building, bemoan-



Photo by Thwaites.

CATTLE RANGING ON KADIAK ISLAND



GOVERNMENT SCHOOL AND CHILDREN AT KADIAK, WHERE MANUAL TRAINING IS TAUGHT.
MOST OF THE PUPILS BEAR TRACES OF RUSSIAN ANCESTRY

ing the fate of her dead lover and leaving a perfume of wild briar roses as she passed. By tradition, this lady, who was a daughter of one of the old governors, was forced to marry against her will, and she disappeared from the wedding festivities and voluntarily took poison.

Another story is to the effect that Governor Baranof sent her lover away on a mission to Siberia and told the Princess that he had been killed at sea. The room in which she is supposed to have met her death, is the one that was occupied by Secretary Seward during his visit to Alaska, and it also was used as a guest chamber by Lady Franklin, who journeyed north in the hope of finding some trace of the brave husband who sacrificed his life and that of his intrepid companions in a fruitless effort to find the Northwest passage.

Baranof, holding absolute power of life or death and being the sole arbiter of right and wrong, ruled the colony with an iron hand. He used the knout frequently and was not slow to resort to the gallows or to stand his victims against a wall as targets for Russian sharpshooters. In this manner he kept the turbulent Indians, Siberian renegades, and unruly traders in a state of obedience and subserviency. He died at sea on his return to St. Petersburg, and tradition says that he was poisoned. The descendants of the Thlingits and of the Russian slaves prefer to believe that his death was accompanied by the most excruciating agony.

Captain Haguemeister succeeded Baranof as governor, and after him came a long line of Russian nobles. About this period Baron Rezanof, a chamberlain at the Russian court, appeared at Sitka. His mission was to investigate the affairs of the Russian-American Company, to study the country's resources with a view to extensive colonisation, and to establish trade relations with Japan, which is only a few hundred miles distant from the eastern end of the Aleutian Archipelago. Rezanof was the

first man to foresee the tremendous latent resources of the territory. Contrary to the plan followed by Baranof—who administered to a Russian settler a severe flogging with a knout because he had brought to headquarters a piece of gold-bearing quartz—Rezanof sent engineers into the field to search for the mythical Island of Gold, which tradition said existed somewhere in the Northern Pacific Ocean. This Monte Christo of the Pacific, believed in by the natives, may have been Treadwell Island, which since then has produced nearly seven times as much gold as the United States paid for the whole territory.

Rezanof's dream of establishing relations with the Japanese was thwarted when the residents of Nippon not only refused to enter into negotiations with him, but treated him with great discourtesy. In retaliation, he planned to lead an expedition to Japan, capture and enslave a number of Japanese, and use them as colonists of the territory. With this end in view he built a large barracks on Japonski Island, in Sitka Harbor, but he died before he found a means of executing his plan.

Finding that Sitka was short of agricultural products and with a view to extending Russian domination down the Pacific coast as far as Mexico, Rezanof made a journey to Yerba Buena, now known as San Francisco, ostensibly to get such food stuffs as would relieve the residents of the Russian colony of the scurvy, a disease from which many of them were suffering. He had established a ship-building yard at New Archangel and a factory in which the bronze bells used at the missions in California and Mexico, were manufactured.

With a ship-load of bells and some furs, the Prince sailed to Yerba Buena where he expected to exchange his goods for food stuffs. It was on this southward journey that he conceived the idea of driving the Spanish settlers and British traders from the Pacific. On arrival at Yerba Buena, however, he discovered

that the viceroyal government of Mexico had issued an embargo against trade with their Russian neighbours, and the governor of the colony refused to allow him to make a shipment. Rezanof spent several months in the Spanish town that is now known as San Francisco and, during this time, his bright mind and courtly manners won not only the confidence of the governor, but also the heart of his daughter, Dona Concepcione. The story of their unrequited love was later woven into a lyrical romance by Bret Harte. At a time when the governor did not happen to be looking, Rezanof loaded his ship with cereals and other foods, and sailed to the north never to return.

For the purpose of inducing the Russian court to carry out his dream of Russian domination of the Pacific, he left Sitka for St. Petersburg via Siberia; and, when crossing a frozen stream in the Chuckchee country, his horse broke through the ice. Although Rezanof escaped drowning, he was so severely chilled that he contracted pneumonia and died a few days later.

Under Baranof's régime the activities of the Russians during the early part of the nineteenth century were mainly confined to commercial projects, although several minor explorations were undertaken by naval officers who were in the employ of the company. Khwostof and Davidof investigated the Aleutian Islands in 1802; Bassanof inspected the Copper River; surveys were made of the Alexander Archipelago and in the vicinity of Kodiak by Captains Krusenstern and Lisiansky in 1804-05.

Captain Golovnin, for whom Golovnin Bay was named, was sent out by the Russian government in 1810, and a second time in 1818 to investigate the company.¹ Golovnin was sent from

¹ This practice of investigation which has become intensely popular in the United States during the past few years has been carried on in Alaska almost ever since the territory was ceded to the United States. It is an unusual day in the North when one does not meet a special agent of one of the various departments of government, who is engaged in "making an investigation." There are those in Alaska

St. Petersburg to investigate the affairs of the Russian-American Company and the status of the natives. He made some contribution to geographic knowledge but only incidentally. His principal mission, it is conceded by historians, was to ascertain whether the Russian-American Company was dealing fairly with the Russian government in the matter of tribute, there having arisen a suspicion at St. Petersburg to the general effect that the officers of the company had been engaging in the practice popularly known in Alaska in this age as "knocking down."

Otto von Kotzebue, commander of the *Rurik*, made the most important exploring voyage of this period. Like many of his predecessors, he was instructed to find a northeast passage around the continent of America connecting the Atlantic and Pacific Oceans. Kotzebue sailed from Kronstadt in 1815 and reaching Kamchatka the following year, sailed for Bering Strait. Coasting along the north side of the Seward Peninsula, he entered and surveyed the great sound which bears his name. On his return passage he visited Unalaska and after wintering in the Hawaiian Islands, returned to the north, but did not extend his explorations.

That this sound was visited by some other Russian explorer a few years later and of which there is no record, is evidenced in the fact that a large post, used as a monument, upon which was carved in Russian the date, May, 1826, and which had the Russian letter "K" at the head of it, was found by the writer in 1909 on an island opposite where the city of Keewalik now stands. Together with the monuments placed there by Captain F. W. Beechy, of H. M. S. *Blossom*, and the monu-

who say that this practice is a survival, under United States rule, of the practice of government by espionage which was inaugurated in Alaska by Russia and which still is continued in other Russian possessions.

ments of Captain Thomas E. L. Moore, Commander of H. M. S. *Plover*; and of Captain Henry Kellett, commander of H. M. S. *Herald* in 1849, this crude record of Russia's unknown explorer was removed to Seattle and became the property of the University of Washington. Whalers report that a monument left by a member of the Franklin expedition at a point three hundred miles east of Point Barrow was burned by the natives for firewood about the year 1906.

Although Baranof paid little attention to adding to the scientific or geographical knowledge of Alaska, a change was wrought when the directorship of the Russian-American Colony was transferred to naval officers some of whom were men of scientific attainments. Besides adding to the geographical knowledge of the country, systematic meteorologic records were kept at Sitka for many years and a magnetic station was maintained. Baron F. P. von Wrangell, for whom Fort Wrangell in Southeastern Alaska was named, coming into the governorship of Alaska fresh from Arctic explorations, carried on the most important explorations of the company. Captain Michael T. Tebenkof, who succeeded Wrangell also was an explorer, and his atlas of the Northwestern coast of America comprising a summary of all previous investigations, is the most important contribution to the geography of Alaska that was made during the entire Russian occupation. In 1826 a big expedition, inaugurated by the company and directed by Kramchemko, Etolin, and Vasilief, spent two years examining the shore-line of Bristol Bay and Norton Sound.

While there is no record of this expedition reaching Kotzebue Sound, it is thought that the Russian monument found there and bearing the date 1826 and the letter "K," might have been placed there by a boat or hunting party that Kramchemko sent out. It would have been possible for this boat expedition to have reached Kotzebue Sound, either by ascend-

ing Fish River to its head from Norton Bay, and crossing the divide to the headwaters of the Keewalik, and travelling down that stream to its confluence with the sea, or the trip might have been accomplished by taking a sail-boat through Bering Straits. It is more than likely however that, if the parties who left the monument were members of the Kramchemko expedition they made the journey from Norton Sound over the ice by dog team, as the streams usually are frozen over until about the middle of May and the ice frequently does not leave Bering Sea until about that date.

Captain Lutke, acting on behalf of St. Petersburg authorities, visited Unalaska and the Pribilof Islands in 1827 and surveyed the northern coast of the Alaskan Peninsula. Vasilief mapped the southern coast of the peninsula a few years later. Minor expeditions were made under the direction of the company from 1818 to 1832 during which period Bristol Bay and the Kuskokwim regions were visited by Korsakof, Vasilief and Kolmakof. Malakof explored the Susitna—since proved to be one of the richest agricultural and mineral valleys in the north—in 1834. The most important of these expeditions was one directed by a half-caste named Andrei Glasunof who crossed from the Russian post at St. Michael to the Yukon and thence to the Kuskokwim. This journey, taken together with Malakof's trip up the Yukon River as far as Nulato, opened the way for the interior fur trade which later proved so profitable to the company and correspondingly disastrous to the natives.

Lieutenant Zagoskin, of the Imperial navy, commanded the most fruitful inland expedition conducted by the Russians. Zagoskin, in 1842-43 ascended the Yukon as far as the mouth of the Tanana and explored the lower stretches of the Koyukuk, also doing considerable work on the Innoko River and crossing a divide to the waters of the Kuskokwim.

All of these streams since have become potential factors in the gold supply of the United States. Zagoskin established a post at Nulato and, as far as his time and means would permit, made track surveys and astronomic determinations of position. He also gathered considerable data on the native population and the resources of the region traversed. Although he must have traversed Gaines Creek, a gold producer in the Innoko district, and have passed within a few miles of the now-celebrated Iditarod diggings, he made no mention of the mineral possibilities of this region. But in view of the fact that many hundreds of white American prospectors and explorers traversed this region within the past twenty or thirty years and did not discover gold until 1906, it is not strange that Zagoskin overlooked these latent resources.

In the light of subsequent developments, with river vessels running many hundreds of miles above the Tanana River, it is of interest to note that Zagoskin stated that the Yukon, or Kwikpak, as he called it, was not navigable above its confluence with the Tanana. From the mouth of the Tanana to the headwaters of Pelly River, the principal tributary to the upper waters of the Yukon, is a distance of approximately three thousand miles; and it is about two thousand miles from the mouth of the Tanana to Lake Bennet which forms the headwaters of the Lewis River, another important tributary to the Northern Father of Waters, which the natives, being provincial, say, "comes down from the mountains of mystery and vanishes in the valley of nowhere."

CHAPTER XXXI

ENGLISH EXPLORERS IN ARCTIC

British navigators again attempt to discover Northwest passage—
Mouth of Mackenzie River discovered by Hudson Bay Company's
trader—Various Franklin Relief Expeditions map such territory
north of Bering Strait—Western Union Telegraph Expedition
spends \$3,000,000 in construction, but line proves useless.

ACTIVITY in Arctic exploration, in the meantime, had been actively conducted by English navigators, who still sought to find a channel through the Northwest passage, but which remained to be discovered by Roald Amundsen, the explorer who later planted the Norwegian flag at the South Pole. Alexander Mackenzie, in 1789, had floated down the river which bears his name from Great Slave Lake to the Arctic Ocean. In 1826 Sir John Franklin had travelled westward along the Arctic Coast of Alaska from the mouth of the Mackenzie River to Return Reef; Captain F. W. Beechy, who had been instructed to co-operate with Franklin, carefully charted the southern coast of Seward Peninsula to Cape Prince of Wales and did much surveying in Kotzebue Sound. He carried his work northward until blocked by the ice. Cape Blossom, at which point a Quaker Mission is now located, was named after Beechy's ship. Beechy's mate, Elson, commanding a boat expedition, journeyed to Point Barrow which, it was hoped, Franklin would have reached from the east. Franklin's men were blocked by the ice one hundred miles to the eastward of Point Barrow, and this part of the coast-line remained a hiatus in the charts for several years.

Representing the Hudson Bay Company, Peter Warren Dease and Thomas Simpson travelled down the Mackenzie and followed the coast westward but they also encountered impenetrable ice. Simpson, however, continued on foot and in native boats, reaching Point Barrow August 4, 1837, and thus completing the exploration of the entire coast-line of Alaska, which Bering had begun nearly one hundred years previously.

The series of Franklin Relief expeditions, sent out by the British government between 1848 and 1853, gave another impetus to northern investigation. Although the principal purpose of these expeditions was to find and succour the courageous Franklin, the commanders incidentally added much to the world's knowledge of the territory. The hope of finding a Northwest Passage still "sprang eternal" in the hearts of the British, and in 1849 Captain E. L. Moore, in the ship *Plover*; and Captain Henry Kellett, commanding the ship *Herald* and the yacht *Nancy Dawson*, anchored in Kotzebue Sound where they spent the winter. Lieutenant Pullen, commanding a boat expedition was sent northward. He traversed the coast-line to Point Barrow, proceeded eastward to the mouth of the Mackenzie River, and ascended that stream to a point where a Hudson Bay post had been established.

Other parties commanded by Moore and Kellett explored the Buckland River and other waterways, while Lieutenant Bedford Pim crossed the eastern end of Seward Peninsula and reached the Russian post at St. Michael. Dr. Simpson, surgeon of the expedition, explored the Selawik and Kobuk Rivers. Jade axes and other implements, which he found in the hands of the natives, led to the discovery, a few years ago, of the source of this mineral in Jade Mountain, two hundred and fifty miles from Cape Blossom. The *Plover* spent the two following winters at Point Barrow, where her commander

gained much knowledge of the geography and natural history of the country.

General Robert S. McClure, in 1850, sailed eastward past Herschell Island and the mouth of the Mackenzie River until his progress was stopped by the ice near Banks Land. His crew, however, continued the journey on foot and were the first white men to travel from Pacific to Atlantic waters over the shore-line of the Arctic Ocean. Much of the latter part of the journey was covered by dog teams across the solid ice which lay on the Arctic Ocean. Captain Richard Collinson, in the British ship *Enterprise*, passed Point Barrow the following year, and subsequently wintered at Walker Bay, on the north coast of Alaska. Commander Trollope spent the winter of 1843 on the south side of Seward Peninsula, and during that season some of his crew crossed to Kotzebue Sound. The surveys of these British explorers were all modelled after the careful and efficient methods adopted by Captain Cook, and many of their charts are still in use. The accounts of these voyages, taken together with the history of the Franklin expeditions, up until twelve or fifteen years ago, contained practically all of the accurate knowledge that had been obtained of that section of Alaska which lies within the Arctic Circle.

Lieut. J. J. Bernard, of H. M. S. *Enterprise*, made a most unfortunate expedition into Alaska in 1851. He was dispatched to search for the members of the Sir John Franklin expedition, some of whom, it was thought, were still living. Bernard landed at St. Michael, and ascended the Yukon River Nulatto, where, together with a number of his companions, he was murdered by Koyukuk Indians.

The American whaler *Superior*, Captain Roys, was the first commercial vessel to pass through Bering Strait into the Arctic Ocean. The trip resulted favourably, a large amount of

whalebone and oil being obtained and Roys' example was followed by many others during the succeeding years. The whaling industry on the Arctic coast of Alaska continued to be a most important and profitable one until the close of the Civil War, at which time it received a severe set-back from the commander of the Confederate privateer *Shenandoah*, who waylaid the whalers as they came out of the Arctic Ocean, and destroyed and captured many of their vessels. Many whaling stations have since been established in Alaska, where the amphibious mammals are hunted by the natives during the spring and summer seasons, and their bone and other products stored in the warehouses awaiting the arrival of trading vessels from the South.

While much has been said and written of the hardships and vicissitudes experienced by explorers, who in recent years have searched for the North Pole, little has been heard of the privations endured by the crews of the whaling fleets of Alaska, who sometimes spent three successive years in the Land of Night for the few dollars that are paid them on their return to San Francisco—if it so happens that their ship has been fortunate in capturing a number of whales.

During the period of Russian occupation of Alaska the only other important contribution to the knowledge of the territory was made by Lieutenant William Gibson, U. S. N., who, in the schooner *Fenimore Cooper*, made surveys along the Aleutian Islands in 1855. Gibson commanded the Rodgers United States Northern Pacific Exploring Expedition and some of the vessels of this fleet reached the Arctic Ocean.

The English fur trade did not establish itself near the eastern boundary of Alaska until many years after Mackenzie made his notable journey to the Pacific. The Hudson Bay Company, backed by tremendous capital and manned by rugged Scotch pioneers, pushed its outposts to the westward, but it

did not reach the Pacific watershed until about the middle of the nineteenth century. Campbell established a post on the headwaters of the Pelly in 1840 and built Fort Selkirk at the confluence of the Pelly and Lewis Rivers eight years later. Fort Yukon was established at the mouth of the Porcupine River in 1847.

A few years previous to this several posts had been established on the headwaters of the Mackenzie and Liard Rivers, in British Columbia, notably at Fort Liard and Fort Francis. The traders at the latter post were murdered by Chilkat Indians who crossed the divide from where Skagway now stands to wage a war on the Francis River tribes. This post was never rebuilt, it being an inflexible rule of the company never to reconstruct an establishment that is destroyed by the natives.

The English traders on the Yukon watershed learned from the natives that the Russians were in possession of the lower end of this stream, and, about 1850, some of them made a trip to the mouth of the Tanana, which was the uppermost point reached by the Russians who had penetrated no further than Zagoskin had explored for them in 1843.

The preliminary exploration of the main Yukon River was made by traders employed by the Hudson Bay Company, and its first mapping was done by the members of the scientific corps of the Western Union Telegraph expedition. This company contemplated the construction of a telegraph line from the United States through British Columbia and Alaska, to Cape Prince of Wales, whence they expected to be able to cross Bering Strait to Siberia, and thus bring the United States into telegraphic communication with Asia and Europe. Many of the old poles and crude insulators erected by the members of this expedition, are still standing in Alaska. Before the work was finished, however, the trans-Atlantic cable

was laid and the project was abandoned after \$3,000,000 uselessly had been expended.

The Hudson Bay Company in 1834 arbitrarily attempted to establish itself at several points in Southeastern Alaska, but its agents were promptly ejected by the Russians. At a conference held in 1837 the Hudson Bay Company leased this coastal belt from the Russians for ten years. The British Company then controlled the fur trade on the upper rivers while the Russian-American Company controlled that on the lower reaches of the streams.

In 1863 word was received at Sitka that gold had been discovered at the head of the Stikine River and an expedition was sent out to ascertain whether the metal had been found in Russian territory. The party was accompanied by William P. Blake, an American geologist who surveyed the lower part of the Stikine River.

The Western Union Telegraph Company commenced its work in 1863. The project, which contemplated the building and maintaining of a telegraph line through thousands of miles of almost unexplored territory in America and Asia, was conceived by Percy M. D. Collins, and in the three years, during which the surveyors were in the field, much important geographic knowledge of the territory north of Puget Sound was gained. The explorations in Siberia also were fruitful of important results.

Owing to the uninhabited condition in the territory it was necessary for the members of the party to carry all of their supplies from the United States. They endured great hardships and Robert Kennicott forfeited his life at Nulato in 1866 to the excessive exposure and privation to which he had been subjected. Kennicott was head of the scientific corps, serving under Captain Charles S. Buckley, chief engineer. He was chosen because of his knowledge of the country gained in

1860-61, when he had reached Fort Yukon by following the Hudson Bay Company's trail from the Mackenzie. William H. Dall, who took the leadership of the Scientific Corps after Kennicott's death, alone continued his researches on Norton Sound and the Lower Yukon after the telegraph survey party was disbanded. His book, based on these investigations, and reports which he wrote later under the auspices of the coast survey, are still the standard works on Alaska.

Kennicott, Frank Ketchum, and Michael LeBarge left the mouth of the Yukon, in 1865, to survey that stream, and after Kennicott's tragic death, Ketchum and LeBarge ascended the river to Fort Yukon. The following summer they reached Fort Selkirk, about 1,500 miles further up-stream. Dall and Frederick Whymper reached Fort Yukon in the summer of 1867, making the first definite survey of this stream. In 1865 Baron Otto von Bendeleben and W. H. Ennis, also of the telegraph survey, crossed from Golovnin Bay to Port Clarence. J. T. Dyer and Richard T. Cotter, crossed from Norton Bay to the confluence of the Koyukuk with the Yukon, while Captain E. E. Smith carried on surveys in the Yukon Delta.

These surveys definitely identified the Yukon of the Hudson Bay Company with the Kwikpak of the Russians and added other important geographical knowledge. The survey lines established by these explorers are practically those that are now used by telegraph lines operated in Alaska by the United States government. Perhaps the most important accomplishment of this expedition was the more or less exact information which the explorers furnished the American public during and after the negotiations by which Russian America became part of the United States.

CHAPTER XXXII

AMERICAN OCCUPATION

Purchase of Alaska from Russia in 1867 following bitter controversy which brought scorn upon William H. Seward, Secretary of State — Stars and Stripes carried to Northernmost part of America by brilliant stroke of foreign policy — Congress torn in strife over purposed purchase — General Lovell H. Rousseau takes possession of territory.

AFTER many months of negotiation, the territory of Russian America was ceded to the United States in 1867, a treaty between the two countries being ratified by the Senate May 28 of that year. Secretary of State William H. Seward is generally given credit for the conception of the idea of the purchase of Alaska, but there are many other claimants to the honour. Certain it is, however, that Seward fixed the price at \$7,200,000 — less than two cents an acre for the entire territory — and it also is certain that to Seward and to Senator Charles Sumner belongs much of the credit for forcing the people of the United States into one of the best land bargains this nation ever has made.

Seward, Sumner and others who favoured the purchase were liberally ridiculed by their confrères in the national legislature.

The Emperor of Russia, during the Crimean War, fearing that the English would blockade and bombard the Russian towns on the American and Kamchatkan coast, offered to sell the territory to the United States. This offer was made in 1854. It is generally conceded that the Czar patterned after Napoleon, who sold the land embraced in the Louisiana purchase to the United States more for the purpose of preventing

the territory from falling into the hands of the British than for the money which it brought him.

The first tangible recorded offer to sell Alaska to the United States was declined by President Pierce, and negotiations entered into with President Buchanan were called off by Russia after an offer of \$5,000,000 had been made for the territory. It was stated by Robert J. Walker, who assisted in drawing up the legal documents to transfer the territory to the United States, that the Czar had offered to sell Alaska during President Polk's administration for the mere payment of government incumbrances and the cost of transfer. This information was largely disseminated after Seward's negotiations had been completed, and, as a result, Seward was denounced on all sides for making a bad bargain. Alaska was referred to as "Seward's Icebox," and the treaty was derided as the "Esquimaux Acquisition Treaty." While the matter was pending there were many conclaves at the residence of the Secretary of State. "Esquimaux Senators" were common names for the guests and the country was referred to as "Walrussia," "American Siberia," "Zero Islands," "Polaria" and "Icebergia." It remained for Charles Sumner to suggest the name which Alaska bears to-day. In the language of the natives interviewed by Captain Cook, the great English navigator, the word "Alayaska" means "The Great Land." Referring to one of the treaty dinners a newspaper reporter wrote:

"There was roast treaty, boiled treaty, treaty in bottles, treaty in decanters, treaty garnished with appointments to offices, treaty in statistics, treaty in military point of view, treaty in territorial grandeur, treaty clad in furs, treaty ornamented with walrus teeth, treaty flopping with fish, and treaty fringed with timber." Other "edibles" on the menu were "icebergs on toast," "seal flipper's frappé," and "blubber au naturel."

In the spring of 1867, after a syndicate of fur traders had

proposed to buy the country from Russia on their private account and had gone so far as to consult Secretary Seward about it, the plan of purchase by the United States assumed definite shape. Secretary Seward and Baron Stoeckl, the Russian minister, entered negotiations which were conducted with great secrecy. At that time President Johnson was involved in a bitter fight with his political enemies and threats of impeachment were discussed by the House of Representatives prior to its adjournment of March 4, 1867.

Rumours of proposed grafts and contemplated schemes to drain the Treasury of the United States seemed to be in the air, and the appropriation committee of the House had grown wary and vigilant; warring factions in Mexico were imploring for loans of many millions of dollars from this country; the intense excitement which followed the assassination of President Lincoln and the attempted murder of the members of his cabinet had not yet subsided, and the nation generally was in an extremely unsettled condition. With discord on every hand, Secretary Seward flashed a brilliant stroke of foreign policy and — counting upon warding off some of the sentiment hostile to the administration — he consummated the purchase of Alaska in the hope that the project of carrying the Stars and Stripes to the Northernmost limits of the continent and three thousand miles west of San Francisco, would cause the citizens of the United States to thrill with patriotism and forget their troubles at home. On the night of March 29, 1867, Baron Stoeckl went to Secretary Seward's home and, waving a telegram said:

"To-morrow we can draw up a treaty for the transfer of Russian America."

"No," replied Seward; "we will do it now."

They worked all night and the grey of dawn had appeared when their task was completed. The treaty was signed at

four o'clock in the morning and sent to the Senate the same day for ratification, much to the chagrin of the English minister, Sir Frederick Bruce, who wanted the territory for his own country. He was so exasperated at the news that he telegraphed to the Earl of Derby, his superior, for instructions to protest against the acceptance of the treaty by the United States.

The measure was confirmed on April 10, chiefly through the brilliant efforts of Senator Charles Sumner, who, although opposed to the purchase at first, delivered an address which was one of the greatest efforts of his life and an epitome of all that was known concerning the territory at that time. Every scientific work, every report, every chart and every narrative of the explorers were consulted by Sumner, and this famous speech for many years was regarded as an authoritative reference on the territory. The articles were exchanged and the treaty proclaimed by the President on June 20, 1867.

It is worth noting in passing that Secretary Seward had intended to keep the matter wholly secret until the treaty had been ratified, but a New York newspaper reporter, who shadowed the Secretary of State, caught an inkling of the terms of the treaty by overhearing a portion of the conversation between Seward and Baron Stoeckl, and the news was given to the world before the document was sent to the Senate.

Secretary Seward trod a thorny path after he had consummated this great bargain. His newly acquired territory was the theme of every newspaper wit and joker in the country and brought upon him much public condemnation, Alaska being frequently referred to as "Seward's Treacherous Purchase."

Considerable difficulty was experienced in getting Congress to make the necessary appropriation to pay for the territory. While Seward's champions proclaimed Alaska a veritable Gar-



Photo by Callarman.

TRIP OVER THE WHITE PASS RAILROAD IS ONE TO BE REMEMBERED. THE AUSTERE MOUNTAINS ABOVE, THE FLOWER-BESTREWN VALLEY BELOW, AND THE SPIDERY-LEGGED BRIDGES MAKE THE JOURNEY A CAPTIVATING ONE.



Photo by Pedersen.

"BACKED BY BETLING HILLS AND FRONTED BY A TRANQUIL BAY, SEWARD'S SITUATION IS A DECIDEDLY ATTRACTIVE ONE"

den of Eden, his enemies declared that its only products were icebergs and polar bears and that its future settlers would have to cultivate their fields with snow-ploughs. A democratic editor said:

"The treaty has a clause binding us to exercise jurisdiction over the territory and give government to forty thousand inhabitants now crawling over it in snow-shoes. Without a cent of revenue to be derived from it, we will have to keep soldiers and six men-of-war up there and institute a territorial form of government. No energy of the American people will be sufficient to make mining speculations profitable in 60° north latitude. Ninety-nine one-hundredths of the territory is absolutely worthless." Agricultural possibilities were considered too ridiculous to be worthy of consideration.

Following the impeachment trial and acquittal of President Johnson, May 17, 1867, General M. P. Banks introduced in Congress a bill appropriating \$7,200,000 to be paid to Russia in exchange for Alaska. The bill hung in the balance for many weeks, but at a night session June 30, with General Garfield in the chair, General Banks made a most eloquent speech, which, by its very audacity and genius, won the votes of the opponents to the purchase. Judge Louthbridge opposed the measure, while three democrats — Bayor, of Pennsylvania; Pruyn, of New York; and Johnson of California — made great speeches advocating the ratification of the treaty. Many other congressmen spoke for and against it, Thaddeus Stevens closing the debate with an oration in its favour. On July 14, the bill was passed by a vote of ninety-eight to forty-eight, and fifty-three members not voting. The House, in passing the measure, included a clause which provided that thereafter the House as well as the Senate should take part in the consideration of treaties.

Another squabble occurred as to which country should pay

the cost of the cablegrams transmitted in connection with the negotiations for the transfer. These expenses amounted to nearly \$30,000, and, when the bill for its share was presented to Russia, the Czar, claiming that it was a part of the treaty that the United States should bear all the expenses of transfer, refused to pay his proportion. Polite diplomatic notes were exchanged, representatives of the State Department visited the home of the Russian representative, and vice versa, but nothing was done till the cable company reduced the bill and the United States paid all.

For many years Great Britain had been making overtures to buy that particular strip of the territory, thirty or forty miles wide and three hundred miles long, which is known as the Alaskan Pan Handle, and its mining adventurers and traders had made threats to force the Russians to evacuate; yet, by the queer turnings of diplomacy, this section of Alaska came into the possession of the United States and is still coveted by our British kin.

Secretary Seward was more than "dee-lighted" with the success of his efforts. He felt that, by having gone far enough north to counteract any leaning or sentiment toward the South — that he had been accused of harbouring — he had his enemies on the run. He planned to divide the country into six territories. In this connection a bill was introduced in the House of Congress in 1912 by Congressman William Sulzer, now Governor of New York, to split Alaska into three parts and to give to the residents of each a measure of local self-government.

The President and Mr. Seward lost no time in clinching their bargain. Immediately upon the money becoming available, Brigadier General Lovell H. Rousseau was furnished with a handsome silk flag and voluminous instructions as to the proper procedure to take possession of the territory.

CHAPTER XXXIII

TRANSFER TO THE UNITED STATES

National emblem flutters to the breeze on memorable afternoon of October 18, 1867—"Original" flags as plentiful as "genuine" scarabs at Port Said—History of Alaska up to and at the conclusion of Russian possession—Seed of discontent which to-day manifests itself sown at early date—Murderous Indians terrify the whites.

BECAUSE the raising of the American Flag in Alaska marked the commencement of an era of prosperity and comparative freedom for that country, the particular emblem which fluttered to the breeze on that memorable afternoon of October 18, 1867, has great sentimental value to those who have become interested in the country's development. Strange as it may seem, up until the year 1908, there were at least a dozen "perfectly good" specimens of this particular flag. They were as plentiful as "genuine" scarabs at Port Said.

In 1908 the commissioners of the Alaska-Yukon-Pacific Exposition, held at Seattle the following year, made it known that they desired to place this flag on exhibition. Immediately the newspaper columns were filled with the names of people, who related with an abundance of circumstantial detail how the one and only flag had come into their possession. This led to an investigation which revealed that the emblem that marked the end of Russian domination on this continent had been placed in a vault in the Department of State, and that it yet remains there.

But while there were a large number of owners of the

"original flag," they were not nearly so plentiful as are the claimants to the honour of pulling the line that hoisted the Stars and Stripes to the mast at Sitka. The latter can be discovered amongst the old-timers in Alaska as plentifully as can the descendants of the Pilgrim Fathers be found in the towns and villages of the New England States.

The honour of hoisting the flag, it is morally certain, belonged to George Lovell Rousseau, a son of Brigadier-General Lovell H. Rousseau, who, acting on behalf of the United States government, formally received the territory from Prince Maksoutoff, who represented Russia.

General Rousseau's official report on file in the Department of State leaves little room for doubt on this point.

Concerning the disposition of the flag, General Rousseau's report dated from the Headquarters of the Department of the Columbia, Portland, Oregon, December 5, 1867, as made to Secretary of State William H. Seward, says:

"With this report and accompanying papers, I return to you the United States flag used on the occasion of the transfer of the territory."

The flag was placed in the archives of the Department of State.

The party landed at New Archangel on October 18, 1867. It was a clear, beautiful day, and it was arranged that formal acquisition of the Territory should be made at three o'clock in the afternoon. General Jeff C. Davis was in command of the American troops; Captain Emmons, in command of the United States warship *Ossipee*; Captain Bradford, in command of the United States ship *Resaca*; and Captain McDougall, in command of the United States ship *Jamestown*. These officers were present on behalf of the United States. Captain Alexis Petchouroff and Prince Dimitry Maksoutoff, governor of the Territory, were present on behalf of Russia.

The flag was lowered by a Russian sailor after some trouble resulting from an entangling of the Czar's emblem with the ropes and mast. The difficulty was soon overcome, and, with salutes from the *Ossipee*, the American flag given to General Rousseau by Secretary Seward for the purpose of proclaiming the occupation of Russian Territory by the United States, was hoisted by George Lovell Rousseau, the General's private secretary.

As the American flag reached the top of the pole, some American bystanders gave a spontaneous cheer. Captain Petchouroff then advancing and addressing the American officer, said: "General Rousseau, by authority from His Majesty, the Emperor of Russia, I transfer to the United States, the Territory of Alaska."

General Rousseau made a suitable reply in as few words and the ceremony was at an end. The transfer was conducted with the utmost friendliness and courtesy on both sides.

The official report describes the economic conditions as to titles held at that time by Russian subjects and fully details affairs concerning climatic conditions and the wonderful possibilities of agriculture, fishing and forests. A complete map, detailing every building in New Archangel, was made by the officers under General Rousseau and forwarded with the report.

While under Russian rule the colony ran along on exceedingly pleasant lines — for the officials of the company. Many elaborate social affairs were held and, it is related by some historians, that a tremendous amount of vodka and other alcoholic beverages were consumed. As the Russian flag floated down, the Princess Maksoutoff, seeing the end of the reign of gaiety which she had so long enjoyed, wept bitterly.

The history of Alaska, until the end of Russian occupation, is largely a history of the explorations carried on in the country, and, as the development of the territory is due to the work of

the explorers, it must continue so to be. Secretary Seward was the first distinguished American statesman to visit Alaska. He brought back with him much information pertaining to the territory and to the great Northwestern section of the United States. Seward made the prediction that the north-west would be developed into an empire and that Alaska would pay back to the people of the United States the cost of its purchase many times multiplied. But he did not live to see his prediction verified.

The famous Secretary of State returned with a large collection of curios and souvenirs, amongst them being a dance cloak covered with Chinese coins, that the Russians had probably obtained at the period of their trade with China and had sold to the Indians in exchange for furs. An expert in the Chinese Embassy later examined these coins and declared that some of them dated back to the twelfth and fifteenth centuries, and a few of them bore the dates of the early years of the Christian era. Mr. Seward also brought back with him a considerable quantity of Alaska cedar, which, in combination with California laurel, was used in the panellings and furnishings of his home.

Collectors of Customs, postmasters and a few other federal officials were appointed, and the country was placed under military rule. The officers of the garrison restrained the surcharged animalism of the Indians from overflowing, but, after ten years' occupation, the military, in 1877, sailed away; and, as no form of civil government was substituted to succeed the military rule, the residents began to despair. Then and there was sown the seed of discontent in Alaska which even to-day manifests itself in repeated petitions to Congress for the right of home rule — granted in 1912 — and occasional murmurings of secession and revolution.

In the absence of the military, the Indians, immediately

beginning to presume upon their immunity from punishment, distilled illicit liquor — still known as Hoochinoo — openly and without hindrance. Pandemonium reigned. The tribe leaders burned buildings on the parade ground, killed and mutilated cattle and horses, and gambled on the church steps in defiance of the Russian priest.

Real trouble began when three white men were murdered by Indians a few miles from Sitka in November, 1878, at a point now called Murderer's Bay. Friendly Indians arrested and placed the murderers in the guard house, and immediately the whole settlement was up in arms. The white citizens, who had been vainly appealing for protection to their own government, were in a state of siege and at the mercy of the enraged savages. Although there were about three hundred white people, they were outnumbered three to one by the Indians, and in momentary dread of a massacre. The Russians gathered at the house of the priest and prepared to sell their lives as dearly as possible.

Failing to receive help from the United States, the Americans made a last, desperate appeal to the British Admiral at Victoria. To his credit be it written, Captain A'Court, of H. M. S. *Osprey*, without waiting to exchange polite diplomatic notes with Washington officials, sailed immediately for Sitka, where he quickly restored a condition of quietude.

Three weeks later the United States revenue cutter *Oliver Woolcott* came in and anchored close to the big British warship. The *Osprey* reached Sitka in March, 1879, and remained, ostensibly to protect the few British citizens, until early in April, when the United States steamer *Alaska* arrived in port. The captain of the *Alaska* declared the Indian scare groundless and his presence unnecessary, and once more the people were left at the mercy of the Indians, but the naval authorities at Washington, after receiving the report of Cap-

tain A'Court, ordered the *Alaska* back, and the vessel remained until relieved by the *Jamestown* the following summer.

Captain Lester A. Beardslee, of the *Jamestown*, instituted many reforms and kept the natives in subjection. He made many raids upon native moonshiners, supervised treaties of peace between warring tribes and kept a naval protectorate over the infant mining camp which, in the meantime, had been established by American citizens at Juneau.

He was relieved, in 1881, by Captain Glass of the *Wachusett*, who remained at the head of Alaskan affairs until 1882 when Captain Merriman, of the *Adams*, was placed at the head of the Alaskan station. Captain Merriman became a power among the Indians and he and his ship played an important part in the history of the country. Peace and order reigned at Sitka, Indians and miners at Juneau were chastised when they deserved it and protected in whatever rights any of them had in the abandoned territory. Crooked traders and distillers of illicit liquor generally had a most unpleasant time of it during this period. Captain Merriman, besides exercising a general police duty about the territory, acted as referee, umpire, probate and appellate judge, arbiter of many vexed questions, and frequently the judgment of a modern Solomon had to be called into requisition in deciding issues in local tribal wars. Many times he was called upon to tear asunder those whom Indian ceremonies had made one, to protect young native Beau Brummels, who scorned the proposal to marry their uncle's widow; to save those doomed to death by torture for witchcraft; to prevent killing of slaves at funerals and Potlatch festivals, and to administer the estates of deceased chieftains. These duties demanded the exercise of tact and no inconsiderable portion of diplomacy. His departure from the wharf was witnessed by wailing groups of natives, who regarded him as the Great White Father of the country.

Captain Merriman was succeeded by Captain J. B. Coghlan and a long line of naval officers who, besides continuing the work instituted by Captain Merriman, gave much of their time to making careful surveys of the channels of the inland passage of Alaska. The history of the naval protectorate in Alaska is a bright contrast to the less creditable military rule, and very much better for the citizens than the government of the Russians.

Yet, accustomed to the liberties and privileges which they had enjoyed in the United States, the American residents of Alaska were deeply discontented. Self-government is an inherent principle of Americanism, and these Argonauts of the Northern frontier made constant and repeated demands for the institution of a civil form of government in Alaska. Seventeen years after the signing of the treaty, the Congress of the United States granted a skeleton form of government to the territory which had proved itself a paying investment from the day it was purchased. Customs changed slowly. Each year Presidential messages were sent to Congress drawing its attention to the fact that Alaska was being shamefully neglected, but despite these repeated admonitions it can be stated without prejudice that conditions, up to the year 1912, have not changed substantially.

About the year 1882 the commander of a Russian man-of-war, stationed on the Pacific Coast, threatened to proceed to Sitka to examine into the defenceless and deplorable condition of the Russian residents to whom the government of the United States had not extended the protection and civil rights guaranteed in the treaty. Promises that something would be done immediately were made, just as the same promises are being made to-day.

After innumerable petitions and the introduction in Congress of more than thirty bills granting a civil form of govern-

ment to Alaska, without any result being obtained, the pioneers, in 1882, threatened to unite with the Russian residents of the territory in an appeal to the Czar for the rights which the treaty guaranteed. It was about this time that the United States had taken several foreign governments to task for the persecutions imposed upon Jews, peasants and other subjects within European and Asiatic borders, and the Czar of Russia, doubtless, gladly would have welcomed an opportunity to memorialise and lecture this Republic in a similar cause.

The bill providing civil government for Alaska was introduced by Senator Harrison on December 4, 1883, and, after it had been amended by the "Insurgents" of that period, passed the Senate on January 4, 1884. It was approved by the House of Representatives on May 13 of that year, after the members had done considerable tinkering with it, and a day later, it was signed by President Arthur and became a law. Alaska was made a territory, but not a land district of the United States, anomalous as that condition may seem, and it is partially attributable to this peculiar form of government that Alaska has not progressed as rapidly as has the contiguous territory in British Columbia. The citizens who had struggled against such tremendous odds for many years, were exceedingly bitter at the skeleton government granted them.¹

At the time of the passage of this law, many of the residents of Alaska were more loyal to the Czar of Russia than to the United States government, and it is this feeling of discontent, still existing, which is responsible for the exodus of Alaskans to the Western Provinces of Canada.

Under the act of 1884 John H. Kinkead, ex-Governor of

¹ This bitterness remains in the hearts of many Alaskans to this day, and it probably will remain until such time as they are granted the privilege of having a voice in the making of the laws which they are compelled to obey.

Nevada, was made the first executive. The other officers of this first government were: John G. Brady, Commissioner at Juneau, afterwards governor; George P. Ihrie, Commissioner at Fort Wrangell; Chester Seeber, Commissioner at Unalaska; Ward MacAllister, Jr., United States District Judge; E. W. Haskell, United States District Attorney; M. C. Hillyer, United States marshal for the District of Alaska; and Andrew T. Lewis, clerk of court. These officers reached their stations in September, 1884, and inaugurated the first civil government in Alaska.

At this time the grossest ignorance of the geography of the country prevailed. Letters were addressed to "The United States Consul at Sitka," and to "The Governor of Alaska Territory" long before the country had any such official or any right to be called a territory. This ignorance of Alaskan affairs exists, to a greater or lesser extent, in the Eastern States to this day, a lawyer at Nome in 1910 having received a letter from the publishers of a prominent American magazine requesting him to remit the amount of extra postage involved in sending the magazine to foreign countries. Apparently the circulation department of this journal had not yet learned that Alaska was a part of the United States, and hundreds of people in the Eastern States still believe that the Klondike gold fields are situated in Alaska, although it has been stated in public prints thousands of times that the Klondike region is part of the Dominion of Canada.

CHAPTER XXXIV

SYSTEMATIC EXPLORATIONS BY AMERICANS

New era of development begins soon after American acquisition —
Approximate position of Canadian boundary line established —
Private traders and explorers do much good work — George Holt
breaks down opposition of natives to allowing white men to cross
White Pass into the Yukon. Klondike gold fields discovered and
rush commences.

WITH the exception of the work done on the Yukon River, little attention was paid to the exploration of the interior of Alaska until after the territory was transferred to the United States. The hoisting of the American Flag marked a new era in the work of opening the country to development. Soon after the transfer the Coast and Geodetic Survey began the task of charting the coast-line of Alaska and it has been actively engaged in this work ever since. When it is considered that the Alaska coast-line is approximately twenty-six thousand miles long, one will have some conception of the amount of labour involved. Other government vessels such as those of the Revenue Marine Service, Fish Commission and Navy, have made large contributions to the knowledge of Alaskan coastwise navigation; while the United States Geological Survey has done much valuable work in the interior.

Soon after the transfer Americans began to realise the opportunities for trade that Alaska offered. A strong American corporation purchased the interests of the Russian-American Company and made many millions of dollars on the seal and other fisheries. While these millions were taken out of Alaska, very little money was expended in the development of the ter-

ritory, and the cost of exploration, to a large extent, was borne by the general government.

Trading posts were established on the Yukon and other streams flowing into the Pacific Ocean. In 1869 the first river steamboat ascended the Yukon.

For the purpose of settling the disputes between American and British traders, Captain C. W. Raymond, U. S. A., in 1869, was instructed to lead an expedition up the Yukon River and establish the approximate position of the boundary line. Raymond, besides gathering important data pertaining to the natives and to the fur trade and other resources, accurately surveyed the lower Yukon River.

Much of the exploration work in Alaska was done by private traders, conspicuous among them being Jack McQuesten, Joe Ladue, Arthur Harper and Frank Densmore. These men, who frequently depended entirely for subsistence on the proceeds of their rifles, and without any of the aids of the modern explorer, made numerous long and hazardous trips into the interior. Several lost their lives by drowning in the swift streams, many were frozen to death, and still others found nameless graves in the lonely mountains. These pioneers left few records of their journeys, but it is known that Harper visited the White and Tanana Rivers, McQuesten the Koyukuk and many other tributaries of the Yukon, one of which still bears his name, and that Densmore ascended the Kuskokwim for a considerable distance. The knowledge gained by these men, through their intercourse with the natives, later, in part, was embodied in maps of Alaska and in part preserved by word of mouth, and when prospectors ascended the Yukon in the early eighties, these charts were of great assistance.

Gold was reported on the Yukon as early as the Telegraph survey of 1867, but was not found in workable quantities for many years later. Dan Libby, a member of von Bendeleben's

party, which was installing a section of the telegraph line near Norton Sound, discovered gold in the Seward Peninsula, near Norton Bay. In 1897, shortly after the news of the Klondike strike was flashed to the world, Libby organised a party in San Francisco and returned to Golovnin Bay. This party located Melsing and Ophir Creeks, on both of which Libby had discovered traces of gold twenty years previously. These and other adjacent streams have since produced several million dollars, but it required the excitement coincident to the Klondike stampede to cause Libby to return to the North and bring about their development. It is notable also that John Dexter, one of the earliest locaters in the Nome gold fields, staked a homestead on Ophir Creek nearly twenty years before Libby returned and proved that the gravel in these streams contained enough of the glittering metal to give many men a competency.

The date of the first systematic prospecting in Alaska is somewhat uncertain, but it is known that some time between 1873 and 1878, George Holt crossed the Chilkoot Pass and reached the Lewis and Yukon Rivers.

Fearing that their lucrative trade with the interior natives would be interfered with, the Chilkoot Indians strenuously objected to allowing white men to cross the mountains by their trading route over Chilkoot Pass. These Indians frequently had waged war on the natives of the interior and many of the latter had been enslaved by their coastal oppressors. Captain Beardslee, commander of the *Jamestown*, broke down the opposition of the Indians and, through his intervention, a party of sixteen miners, led by Edmund Bean, crossed the mountains and descended the Lewis River, as far as the Teslin. Many others followed in the next few years and some of these traversed the entire length of the Lewis and the Yukon to St. Michael.

John Muir, the great naturalist and explorer, accompanied

by the Rev. S. Hall Young, discovered Muir Glacier and explored Glacier Bay in 1879. Muir's glowing descriptions of the wonderful scenery of Alaska, in later years, led to the development of a tourist route through Southeastern Alaska waters. Although Muir and Young were the first men to examine Glacier Bay, it had been seen two years earlier by Lieutenant C. S. A. Wood who, in company with some native hunters, was making some explorations in the Fairweather Mountains.

The De Long expedition sailed in the steamer *Jeannette* from San Francisco in 1879 to search for the North Pole. On her return the vessel was crushed in the ice off the Siberian coast and abandoned on December 21, 1881. The officers and crew outfitted themselves with sleds and boats, and made an effort to gain the mainland. Chief Engineer G. W. Melville reached the shore and, falling in with some natives, was saved. Lieut. De Long, together with his boat party made a landing at the mouth of the Lena River, where all but two of them died of starvation. Lieut. Chipp, in command of the third boat party, doubtless perished among the ice floes, for he was never heard of again. Altogether more than twenty lives were lost. The revenue cutter *Rodgers* rescued the survivors the following year.

Ivan Petrof, an agent of the Tenth Census, who long had been a resident of the territory, made a notable contribution to the knowledge of geography and resources of Alaska. He spent two years travelling along the coast and on the lower Yukon and Kuskokwim Rivers, his familiarity with the native tribes and Russian inhabitants enabling him to gather much data pertaining to regions which he did not visit. His general map of Alaska, though largely based on the statements of natives and traders, was fairly accurate and delineated the general features of the geography, and he was the first man to mani-

fest a clear conception of the distribution of the mountain ranges in Alaska.

Lieutenant Frederick Swatka, in 1882, two years after the Indian route to the headwaters of the Yukon had been in use by prospectors, made a most notable journey from Lake Bennet to Fort Selkirk. After crossing the range, Swatka built a raft and navigated this unwieldy craft through the many dangerous rapids.

From Fort Selkirk he continued down stream to Fort Yukon, but this section of the river already had been explored by the Western Union Telegraph survey and others. Charles W. Hoffman, the topographer who accompanied Swatka, made the first actual survey of the Lewis and Yukon Rivers. Sketched from the raft as he drifted by, the work was rather crude, but only in very recent years has it been superseded by more complete maps. In the decade that followed the publication of Swatka's account of his rather exciting trip down the Yukon — a journey which had been made by many others before him — many exploring expeditions were sent out by the government.

During the years 1881-83, a meteorological and magnetic station, in charge of Lieutenant P. H. Ray was maintained at Point Barrow by the U. S. Signal Service but no explorations of any importance were attempted.

The Geographical Society of Bremen, Germany, in 1881, took a hand in Alaska exploration by dispatching Dr. Arthur Krause to make an examination of the coast along Lynn Canal into the Chilkoot River Basin. Krause published a map which for the next ten years was used as a basis for all other maps of the region visited by him.

Although that spectacular piece of water above the Miles and Childs Glacier, on Copper River, was named Abercrombie Rapids in honour of Lieutenant W. R. Abercrombie, who,

in 1884, was detailed to make an exploration of Copper River, the expedition led by him, in the light of results secured, is generally regarded as a failure.

The following year Lieutenant Henry T. Allen, who was dispatched to complete the work, made one of the most remarkable journeys in the annals of official Alaskan exploration. With four men, Allen landed at the mouth of Copper River in March, 1885. In a poling boat and with dog sleighs, he traversed this stream for a distance of three hundred miles; then crossed the divide by way of the Suslota Pass at the head of the Tanana, and obtaining another boat from the natives, followed that stream to its confluence with the Yukon. From the time the party left the head of the Copper River until it reached the Yukon, in the following June, the members subsisted entirely on the game which fell to their arms. For many weeks moose meat was the only item on their daily menu, although, at times, they found a dietary change in an occasional rabbit or a few ptarmigan. They reached the Yukon in a half starved and somewhat exhausted condition.

With indomitable energy Allen re-outfitted and, with one companion, crossed to the Koyukuk from the mouth of the Melozi River and explored it almost from the Arctic Circle to its junction with the Yukon. He crossed by portage from the lower Yukon to Norton Sound and then made his way to St. Michael, whence he returned to the United States by steamship.

With the exception of Dr. Alfred H. Brooks, of the U. S. Geological Survey, Lieutenant Allen by his energy and courage, added more to the knowledge of interior Alaska than any man who preceded him or succeeded him. Allen made careful sketch surveys and noted all facts which came within his observation; and, within one season, he made maps of three of the larger rivers of the territory, which, until accurate surveys

were made twelve years later, were the basis of all the maps used.

Extensive explorations were conducted by officers of the Navy and of the Revenue Marine Service, during the years 1883-86, along the rivers tributary to Kotzebue Sound. In 1883, Lieutenant George E. Stoney, of the revenue cutter *Corwin*, who had been dispatched to Siberia to distribute presents to the natives who had aided the *Jeannette* relief expedition, examined Kotzebue Sound and explored the delta of the Kobuk River.

The year following, these explorations were continued and resulted in the discovery of Selawik Lake and other important waterways.

Stoney made a third trip into this region in 1886, and spent the winter in making extensive explorations. He was accompanied by a large and well-equipped party, and the result of the work was the discovery of the Noatak and of the Alatna, the latter a tributary of the Koyukuk; the Selawik River and Chandlar Lake, in which the Colville River has its source. Ensign Reed explored the Noatak and Assistant Engineer Zane, reached the Yukon by way of the Pah and Koyukuk Rivers. Ensign W. L. Howard, with two white men and two natives, left the winter camp in April and proceeded northeast across the Noatak to the valley of the Colville, followed downstream for twenty miles, and then crossed another divide to the headwaters of Chipp River. Here they abandoned the dog teams and descended the coast in native skin boats, arriving at Point Barrow, July 15. This was the first party of white men to cross Northern Alaska, and this expedition was the first to attempt to make instrumental surveys in the interior of the territory.

The first white man to reach the headwaters of the Kobuk was Lieutenant John C. Cantwell, of the Revenue Marine



WILD HAY AND RED TOP GROW LUXURIANTLY NEAR SEWARD



Photo by R. D. Heinl.

W. R. WISE, A MINER-RANCHER, MAYOR, CHIEF-OF-POLICE, AND ENTIRE POPULATION OF STILLWATER

Photo by Kennedy.

"THE SHIMMERING WATERS . . . CHANGE IN THEIR PELLUCID DEPTHS FROM BLUE TO VIO-
LET, THEN TO DARK GREEN AND BLACK, AND AGAIN TO PINK AND HELIOTROPE AND
GAYER COLORS"



Service, who, in 1884, navigated this stream as far as Walker Lake. Charles H. Townsend, of the U. S. Fish Commission, accompanied the party as naturalist.

S. B. McLenigan, of the Revenue Marine Service, with one companion, in 1885, ascended the Noatak River about three hundred miles and made a careful sketch survey of that stream.

Being considered at that time the highest peak on the continent, and because it was the first point sighted by white man on the mainland of Alaska, Mount St. Elias had long been a subject of deep interest. Bering, who discovered and named it, knew it only as a distant peak which thrust itself above the clouds, and he made no attempt to get near it. Cook, Dixon and Vancouver, also noted this mountain. In 1786, La Perouse saw Mount St. Elias, and Dagelet, his astronomer, calculated its altitude as 12,672 feet. Five years later Malaspina entered Yakutat Bay and surveyed Disenchantment Bay, its inland extension, which he hoped would prove a Northeast passage. Malaspina calculated the altitude of St. Elias as 17,851 feet. Tebenkof's Atlas placed its altitude at 17,000 feet. In 1854, Dall and Baker made a rough triangulation and reported the elevation at more than 19,000 feet. The Coast Survey triangulation, made in 1892, shows the elevation of this mountain to be 18,024 feet.

In 1886, Frederick Schwatka, with Professor William Libby, and Lieutenant H. W. Seaton-Kerr, led an expedition which was financed by the *New York Times*, to ascend the mountain. Little was known of the conditions of travel, and the venture ended in failure. Two years later, an altitude of 11,400 feet was attained by a party consisting of W. H. Topham, Edwin Topham, and George Brocas — three Englishmen — and William Williams, an American.

Mark V. Kerr and I. C. Russell, in 1890, acting jointly for the National Geographic Society and the U. S. Geological

Survey, attempted to scale the mountain, and, although their efforts were unsuccessful, much important data was obtained. Russell and Kerr, after living for four days in rude shelters in snow banks on the upper slopes of the mountain, without fuel and almost without food, encountered a violent blizzard and were forced to descend. The following year Russell gained an altitude of 14,800 feet, when he again was forced by severe storms to return.

These two expeditions resulted in the collection of a large amount of data pertaining to the glacial history of the region, and a fairly accurate map of the slope of the mountain. Russell's determination of 18,100 feet, as the height of the uppermost peak, was remarkably accurate, when the conditions under which the calculation was made are considered.

Prince Luigi, the noted Italian explorer, was the first to reach the summit of Mount St. Elias. He followed the route which Russell had laid out, and adopted the methods the latter had recommended. Landing at Yakutat Bay, in 1897, with a large, thoroughly-equipped expedition, some of the members of which were recruited from the Seattle Athletic Club, Luigi "mushed" across the forty miles of snow and ice between the coast and the base of the mountain, and reached the summit on July 31, five weeks after leaving his ship. While his report contains much that is of geographic interest, it is chiefly valuable as a contribution to the literature of mountaineering in America.

Soon after the discovery of gold on the Yukon, at Forty Mile and Circle City, the international boundary became a question of great importance. In 1888, William Ogilvie and George M. Dawson, for whom Dawson City afterward was named, made surveys of the route from the head of Lynn Canal to the mouth of the Lewis River. In the following year Ogilvie extended his surveys down the Yukon to the interna-

tional boundary, and, in 1890, continued them to the head of the Porcupine, which had been surveyed in the previous year by R. G. McConnell, of the Canadian Survey.

About this period Dawson made a trip from Fort Wrangell, in Southeastern Alaska, to the head of the Stikine River, thence across the Cassiar Range to Dease Lake, down the Dease River to the Liard, up the Liard to the Francis River, up the Francis River to Lake Francis, thence across a spur of the Cordillera Range to the headwaters of the Pelly River, and down the Pelly River to its confluence with the Lewis at Fort Selkirk. He carefully mapped all of this country, most of which was practically unknown up to that time, and, while most of the ground covered is in Canadian territory, his maps and charts were later of great assistance to American prospectors who invaded that section soon after the sensational gold discovery on the Klondike River.

Meanwhile the United States Coast and Geodetic Survey had dispatched two parties to the boundary line. J. E. McGrath, who headed the first party established an astronomic station near the boundary on the Yukon, and J. H. Trainer, who was in charge of the other party, installed a similar station where the boundary crossed the Porcupine. Turner's party, in 1890, made a winter trip with dog teams from the Porcupine to the Arctic Ocean, following as nearly as possible the one hundred and forty-first meridian. This was the second time that Northern Alaska was crossed by white men. Professor I. C. Russell, of the U. S. Geological Survey accompanied McGrath to the boundary from the mouth of the Porcupine and returned to the coast with a party of prospectors by way of Lewis River and Chilkoot Pass.

Frank Leslie's *Weekly*, in 1890, sent an exploring expedition into Alaska, but so far as can be learned, no official report of the work done by the party has been filed. About this time,

Jack Dalton, in company with a man named Glave, made a trip from the coast, through the St. Elias Range, to the Alsek River.

In 1891, C. Willard Hayes, of the U. S. Geological Survey, Lieutenant Schwatka, and Mark Russel, a prospector, crossed the divide from the head of the Taku River, near Skagway, to Teslin Lake, which stream they descended to Fort Selkirk. They continued down stream to the White River, which they ascended to its head. Although deserted by their Indian packers, they crossed another divide to the Nizina where they built a boat, and then floated down the Copper River to Cordova Bay.

The discovery of gold in different portions of British Columbia, Alaska and the Yukon territory, induced Congress, in 1895, to recognise the importance of an investigation of the mineral resources contained in Uncle Sam's northern domain, and through a small appropriation, the United States Geological Survey was enabled to send its first party to the north.

Dr. George F. Becker, aided by C. W. Purington, made a preliminary investigation of the gold deposits, and W. H. Dall studied the coal beds of the Pacific coastal belt. In 1896, J. E. Spurr, with H. B. Goodrich and F. C. Schrader, visited the important placer districts of Alaska on the Yukon and did some topographic and geologic mapping.

Although thirty years had elapsed since the territory had been ceded to the United States, the general public was still almost entirely ignorant of the geography, resources or climate of Alaska. Every newspaper still referred to Alaska as a "land of eternal snow and ice," and gave the impression that it was inhabited by fur traders, and blubber-eating Eskimos. In the public mind the word "Alaska" was still synonymous with icebergs, polar bears, bleak, snow-covered coasts, and a country generally uninhabitable for white men.

The news of the discovery of gold in abundance on the Klondike River, Yukon Territory, during the summer of 1896, startled the world, and many of the illusions concerning Alaska and Northern Canada, soon were dispelled.

George W. Carmack's discovery of a New Eldorado, on a tributary of the Klondike, brought a swarming, seething horde of fifty thousand gold hunters into Alaska and the adjacent portions of Canadian territory, and made the name "Klondike" a household word in every civilised country on the globe. The glamour of romance, the distance, the inaccessibility of the field, and the hardships and vicissitudes with which the trail was bestrewn, only tended to make the diggings the more attractive to the adventurers. Every newspaper in the United States, and many in foreign countries, published glowing accounts of the unprecedented riches of the Arctic Bonanza. From every corner of the world, men, who had been accustomed to living on the frontier and who were inured to the hardship and privation incident to pioneer life, stampeded for Alaska. Two weeks after the news of the strike reached the Coolgardie gold fields, in Western Australia, a ship left Freemantle for Skagway, and every one of its berths were filled by Australian miners, hunters and sharpshooters. Thousands left England and the European countries and crossed the Atlantic, bound for the new diggings where they hoped to find a fortune. Then was demonstrated the fact that the author who wrote "Distance lends enchantment to the view," knew what he was talking about.

Hardly had the Klondike excitement subsided when another sensational discovery was made in the Nome placer fields where the glittering metal was first unearthed late in 1898 and became generally known a year later. Again the attention of the world was attracted to Alaska, and a second exodus to the northern regions occurred in 1900.

Of the thousands who entered the Yukon Basin during this memorable stampede a large percentage had no conception of the difficulties and dangers that confronted them. An Englishman, after travelling across the Atlantic Ocean in a modern steamship and thence across the continent on the Canadian Pacific Railroad, on reaching Vancouver, British Columbia, remarked:

"Well, don'tcherknow, the worst part of the trip is over, bah jove! What?"

He had no anticipation of the weary, back-breaking work of packing across Chilkoot Pass that was ahead of him, or that he later was to be introduced to that relic of the Spanish Inquisition, known as the whip-saw, used by the prospectors to cut the timber from which their boats were constructed.

Hundreds of those who started for Dawson, buoyed up with the hope that within a year they would return to civilisation and join the millionaire class, never had any previous training for the work they had so rashly undertaken. Scores of them, after finding the labour of carrying their supplies across the coast range too strenuous for their constitutions, sold their outfits and returned to civilisation, broken-hearted, bitterly disappointed, and with their dreams of future affluence shattered into a million fragments. Many of those who, after infinite labour and heart-breaking toil, had crossed the divide and floated down the river, became discouraged at the outlook when they reached Dawson and continued in their boats down the Yukon to St. Michael, whence they returned home without having struck a pick in the ground.

The more venturesome prospector, however, found no risk too hazardous, no danger too great, no labour too hard, no privation too painful, and, at this writing, sixteen years later, there is hardly a stream in the explored sections of Alaska that has not been panned by him and hardly a quartz outcrop that

has not resounded to the sturdy blows of hammer-headed pick.

Evidences of his intrepidity and energy are to be found from the tropical-like jungles of Southeastern Alaska to the treeless, wind-swept tundras, which skirt the Arctic Ocean.

Although prospectors have travelled far and wide in Alaska, they, as a class, have added little to the knowledge of its geography. As a rule they follow but two purposes, one to find gold, and the other to get through the country. Ever seeing green fields in the distance, they wander around like restive spirits, and the information obtained by them seldom is exact, even when available, for their conception of where they have been is often quite as vague as their ideas as to where they are going. Though their contribution to geographic knowledge is small, these pioneer prospectors, at the expense of hard toil and much suffering, and frequently at the sacrifice of life or limbs, have blazed the trails for the settler, the miner, the surveyor, and the agriculturalist.

A demand for more definite information pertaining to the resources of Alaska followed the public interest aroused by the discovery of gold in the Klondike, and money was appropriated for investigation under various bureaus of the federal government. The Coast and Geodetic Survey was enabled to expand its surveys, which had been carried on ever since the purchase of the territory.

Captain P. H. Ray, and Col. Wilds P. Richardson, in command of a company of infantry, were sent to Alaska, in 1897, to establish military posts and to give succour and relief to indigent and unfortunate miners and prospectors when it was found necessary. These officers also built trails and telegraph lines. Their work provided a nucleus for that which subsequently was carried on in Alaska under the direction of the U. S. Signal Corps and the Alaska Road Commission, of which Lieutenant — now Lieutenant-Colonel — Wilds P. Richardson,

at this writing, is president. The army officers also attempted explorations and surveys but these were only partially successful, and since have been forgotten. But the humane work which they did in relieving destitute and frozen miners long will be remembered.

CHAPTER XXXV

WORK OF THE U. S. GEOLOGICAL SURVEY

Dr. Brooks' researches on behalf of the United States Geological Survey, the one reliable medium in the discovery of auriferous gravel—Many millions of dollars in gold now added to the world's supply—Difficulties overcome in a formerly unexplored empire—First authentic information of the new gold fields at Nome—Tales of hardship and death.

IN 1898, the U. S. Geological Survey began its systematic explorations in the interior of Alaska, and in all the efforts of this government in dealing with the territory, the one act which stands out as a stroke of remarkable ability was the appointment of Dr. Alfred H. Brooks to take charge of this work. Dr. Brooks has proven himself capable, efficient and industrious beyond the most sanguine expectations, and the work which has been done under his direction has proved of inestimable value to the residents of the territory. Tirelessly energetic, unassuming, honest and conservative to the last degree, and a keen, careful and scientific observer, Dr. Brooks is most highly regarded in the territory, and his name has come to be used in Alaska as a synonym for everything that is accurate, definite, and authentic. His wonderful ability to gather and disseminate knowledge of the country's geology and resources and his keen insight into the real reasons for Alaska's lack of development, caused a well-known Alaskan to remark:

"There are but two who know the truth about Alaska's resources. These are Alfred H. Brooks and Providence."

In making a journey along the fringe of the territory and to the coastal coal fields for the purpose of studying Alaska's

problems, in the summer of 1911, Walter L. Fisher, Secretary of the Interior, chose as his companions men who long had resided in the territory and who had studied conditions there. The one upon whom the Cabinet Officer came chiefly to depend for accurate information was Dr. Brooks. The newspaper correspondents in the party gave Dr. Brooks a newspaper promotion to the rank of General. They called him "General Information." On his return to the national capital, Secretary Fisher promoted Dr. Brooks to the office of chief geologist of the United States, but, being more interested in finishing the work which he had so successfully conducted in Alaska for more than twelve years than in his own advancement, Dr. Brooks declined the honour and the increased remuneration which the more authoritative position would have brought him.

The United States Geological Survey has pointed out to the prospectors not only the places where it is useless for them to search for gold, but also the regions in which payable gold is likely to be found. The discovery of auriferous gravel in the Tanana district in 1902, which since that time has added many millions of dollars to the world's supply of gold coin, was attributable to the work done by this department. Two years before the strike was made the department issued a report in which it was stated that, in all probability, payable gold would be discovered in the region where it later was found.

The problems which confronted the Geological Survey when it first entered Alaska were appalling. Immediate publication of maps of unexplored, or only partially explored, regions was demanded. While the gold excitement was at its height, there was an insistent public demand for these maps, and the members of the survey had little opportunity in the first year or two to do any extensive mapping or exploration. The problem was to make surveys of the possible routes of travel, which

were chiefly confined to the larger rivers, and to include within these as wide areas as possible.

The first season's work resulted in about three thousand miles of instrumental traverses, with reconnaissance maps of an area of nearly thirty thousand square miles, besides more accurate surveys of about two thousand square miles. The traverses were largely confined to the more important rivers. The work had to be planned with a very incomplete knowledge of the geography, climate and other conditions of travel, and all supplies and equipment had to be transported from Seattle. Landing in Alaska, the survey parties were dependent entirely upon their own resources for transportation. The first year they travelled by following the waterways in canoes, which the surveyors carried on their backs over portages, but after some knowledge of the country was gained, it was found that horses could be used to advantage for the transportation of supplies.

At this time very little was known of the interior of Alaska. Of the 586,400 square miles of territory, very little of it, excepting that contiguous to the coast, had been mapped. At the present writing about one-fifth of the country has been covered by the Geological Survey maps, while practically four-fifths have been partially explored.

The first year's explorations were conducted on the Kuskokwim, Susitna, Tanana, Matanuska and Copper Rivers. All of these offered possible routes to the interior. The Copper River work was done by the Geological Survey and the investigation of the other streams was carried on by Captain Edward F. Glenn and Captain William R. Abercrombie, under the supervision of the War Department, to whose parties geologists from the Geological Survey were attached. The other rivers were mapped by the Geological Survey parties.

With a small detachment of men and several pack horses, Captain Glenn, accompanied by W. C. Mendenhall, of the

Geological Survey, left the coast at Cook Inlet, crossed the mountain range and descended the Delta River to the Tanana, whence he returned to the coast by the same route. Much valuable information was collected by Mendenhall, of the Geological Survey.

At the head of the Tanana Lieut. J. C. Castner was detached to continue the exploration to Circle, on the Yukon. With two others he crossed the Tanana, but the lateness of the season prevented him from finishing his projected journey. After losing both horses, the three attempted to return down the Volkmon River to the Tanana on a raft. Their primitive boat struck a "sweeper" and everything, including their shoes, was lost. Many days later they reached the Tanana almost dead from hunger and exposure, but were fortunate enough to find some friendly Indians. Minor explorations were conducted by H. G. Larnard and William Yanert, also of Glenn's party.

Captain Abercrombie's expedition landed at Valdez and followed the path made by hundreds of prospectors across the Valdez Glacier. F. C. Schrader, of the Geological Survey who was a member of this expedition, did some creditable work in the Copper River Basin.

G. H. Eldridge and Robert Muldrow of the Geological Survey with five others explored the Susitna. They dragged their supplies in canoes against the swift current until they reached Jack River from which point, with packs on their backs, they pushed on to Cantwell River, a tributary of the Tanana. Here their supplies gave out and they were forced to return to their boats, which they reached in a semi-starved condition. They made surveys throughout the journey, and the position and height of Mt. McKinley, 23,380 feet, were determined for the first time.

J. E. Spurr and W. B. Post of the Geological Survey as-



INDIAN BURIAL IN THE BARRENS OF THE FAR NORTH



A GROUP OF SCIENTIFIC INVESTIGATORS



A NORTHERN MERCHANT.—JAPANESE SEA-SPIDERS ABOUND IN NORTHERN WATERS, AND THE SHELVING BEACHES, WHEN THE TIDE IS OUT, ARE COVERED WITH CRABS, CLAMS, AND OTHER SHELL FISH

cended the Yetna, the left fork of the Susitna and packed their outfit across a divide to the Kuskokwim, floated down that stream, and returned to Cook Inlet by an Indian trail across the Alaska Peninsula.

The same year the two most important southern branches of the Yukon, the Tanana and White Rivers, were surveyed. A. H. Brooks and W. J. Peters crossed Chilkoot Pass from Skagway to Lake Marsh, whence they later embarked in canoes for White River, shooting the White Horse Rapids and many other pieces of turbulent water, en route. They ascended White River after the manner of beasts of burden by dragging their canoes with tow lines against the raging current. After a desperate struggle they reached the head of the swift stream and crossed a divide to the Tanana, down which they leisurely floated to the Yukon. They surveyed about 10,000 square miles of territory.

E. C. Barnard, following a similar route from the coast to the Yukon, made a survey of about 2,000 square miles in the Forty Mile River Basin.

Brooks and Peters the following year extended their surveys westward from Lynn Canal along the northern base of the St. Elias Range to the headwaters of the White and Tanana Rivers, and thence northward to the Yukon at Forty Mile. The party started out with fifteen horses, but only five of the animals survived the difficulties of the journey. Schrader and T. G. Gerdine, the same year, left Fort Yukon in canoes, ascended the Chandlar River, and, after making a sixteen mile portage, reached the Koyukuk and floated down that stream to the Yukon.

In the fall of 1899 Brooks and Schrader met at St. Michael and, after the close of navigation, visited the newly discovered placers at Nome. They sent from there the first authentic information about the new gold field. In 1900 Schrader, Ger-

dine and A. C. Spencer mapped a large area in the Copper River Valley, while Brooks, Barnard, Peters and Mendenhall did a vast amount of work in Seward Peninsula.

Surveys in Northern Alaska were conducted in 1901. The Yukon, Koyukuk and Kobuk Rivers, the Arctic Ocean and Kotzebue Sound were explored and mapped. Schrader and Peters made a trip for the entire length of Alaska from its southernmost limit to Point Barrow. In the course of their journey they traversed the Endicott Mountains and brought back the first authentic information in regard to this great range. Theirs was probably the most noted exploration made by the Geological Survey and it resulted in the collection of a mass of valuable information. Mendenhall and Reaburn also did considerable work in the northern region this year, notably along the Kobuk River.

During the same year Brooks made a number of geological studies in Southeastern Alaska, and Gerdine, Collier and Witherspoon did much areal mapping in Seward Peninsula.

In 1902, Brooks and Reaburn extended the survey northwest from Cook Inlet through the Alaska range, and bending northeast, passed close to the base of Mt. McKinley and on to the Nenana River, whence they took a northwesterly route across the Tanana to Rampart, on the Yukon. During the same season Collier studied the geology of the Yukon, Peters made a detailed survey near Juneau, and Schrader, Gerdine, Mendenhall and D. C. Witherspoon did areal mapping on the Copper River Basin.

In 1899, under the auspices of the War Department a military trail was constructed across the Chugach Mountains from Valdez and minor exploration work was done. Oskar Rohn, a civilian employé of the expedition led by Capt. Abercrombie, with one companion made a very daring journey. He crossed the Wrangell Mountains to the Tanana and then returned to

Copper River, making a sketch map and geologic investigations.

From that time to the present day various investigations have been conducted by the Geological Survey, contour maps have been made of about 120,000 square miles, many of the coal measures of Alaska have been surveyed and a whole library of scientific data pertaining to the geology and topography has been printed by this Department all of which has been of tremendous value to those who have sought to develop the manifold resources of the territory. The increased knowledge of the geology of the country has given the explorer a much better understanding of the places where he is liable to find the fortune that he ever is seeking. The reports printed by the Department have been of inestimable value not only to the fortune hunters, but also to those who have made Alaska a source of investment. The work of the Geological Survey has been the means of refuting many of the wild and chimerical stories published in various magazines by those whose interests are best subserved by a lack of development.

Of the 120 or more parties, which the Geological Survey has sent to Alaska, not a single one has failed to execute the work allotted to it. This is largely because of the able and efficient management of Alfred H. Brooks and his ability to select capable men for leadership of the expeditions. He has chosen men especially fitted by nature, as well as by experience and training, for the various undertakings, and the physical work and discomforts, as well as the hardships sometimes involved have cheerfully been shared by leaders and men alike.

Besides publishing a library of information pertaining to the country's resources the members of the survey have enlightened the world in regard to the climate of the territory and its other physical conditions.

Alaska exploration never has, and probably never will be, easy. The history of geographic investigation has been a tale

of almost continuous suffering and hardship, and not infrequently of death. Scores of men who had gone forth into the wilderness in the hope of finding a competency have found instead a nameless sepulchre in the forsaken mountains or at the bottom of the frozen streams. Let those who are not personally familiar with the difficulties and obstacles encountered judge not too harshly the men, who — with sweating brows, aching backs and blood-blistered hands — have attempted to make the territory productive. Many are the lives that have been forfeited in efforts to conquer the wilderness, and many are the sacrifices that will be made in the years yet to be, for many large areas are still practically unexplored.

CHAPTER XXXVI

THE DISCOVERY OF THE NORTHWEST PASSAGE

Roald Amundsen first to bring ship through tortuous Northwest Passage — Human interest stories of his fealty to the members of his intrepid crew — Sterling qualities of explorer characterised by sublime modesty which precluded dramatic embellishment of world-famed deed — Story of his valour during long, black, sub-Arctic night.

WHILE Roald Amundsen cannot properly be classed among those whose explorations have tended to the development of Alaska, the fact that he was the first man to bring a ship through the long-sought Northwest Passage — a task in which many lives had been sacrificed — a few words pertaining to his work and his personal characteristics might not be out of place.

This daring Norwegian navigator, in 1912, sprung suddenly into fame and public acclamation by discovering the South Pole. But Amundsen is no newspaper explorer, and it certainly was not his fault that the daily journals of the world carried his name in their headlines for many days.

Amundsen, be it remembered, is the only explorer of the northern Polar regions, who, in recent years, has accomplished anything of great scientific value. It is true that he did not discover the North Pole, nor did he search for it, but he did definitely determine the position of the magnetic pole — a service which since has proved of inestimable value to other navigators, and he gathered a large amount of scientific data pertaining to the botanical and geological condition of the Polar regions.

Apart from finding the Northwest passage, his mission was partially for the purpose of discovering some trace of the descendants of fifteen hundred Vikings who were lost from Newfoundland in the fourteenth century and were never heard of again. A commander of one of the ships that was lost was a descendant of Lief Erickson, who is credited with landing on that part of America which forms the United States long before the discovery made by Columbus. Erickson and his followers are supposed to have established a settlement on the New England coast. It is generally conceded that the blond Eskimos discovered by Vilhjalmar Stefansson in 1912 are the descendants of the lost Vikings.

A legend of the natives on the Northern coast of America is to the effect that a race of blue-eyed, light-complexioned people inhabit part of the land adjacent to the Arctic Ocean, and it was for these people Amundsen was searching as he navigated the tortuous channels which had baffled every explorer who had preceded him. He did not find the descendants of his missing compatriots, but he did find a race of Eskimos, who, theretofore, never had seen a white man.

These natives — short of limb but with tremendous chest and shoulder development — were not the primitive people that generally would be supposed. They had discovered a method of gouging the pure copper from the matrices in the vicinity of their habitat and making it into knives, spears, dishes and other utensils, tools and weapons. Amundsen and his associates could not understand them sufficiently to ascertain whether they had any tradition pertaining to the flood, such as is possessed by practically every uncivilised tribe.

The writer was the first newspaper man to interview Amundsen after he had accomplished his journey along the Northern coast of the Continent of America. I had travelled some thousands of miles to get that story, but Amundsen's inherent

modesty precluded the possibility of even one sensational feature.

On reaching Bering Sea, in 1906, Amundsen's sloop, the *Gjoa*, was met near Nome by several launches loaded with prominent citizens who wanted to do him honour. But Amundsen as a hero was sadly disappointing. He could not play up to the part. Public praise seemed to embarrass him.

Trying to get an interview from him was like pulling teeth. In answer to questions he simply said "yes" or "no"; and told of the different places where his ship had stopped on the hazardous journey.

"Didn't you have any accidents?" I asked. "Were there no hardships and privations?"

"Oh, no; we got along pretty well," he answered, in a soft, mild voice.

"Wasn't there any incident of a thrilling nature of any kind or character?" I finally asked in desperation, as I saw a big story fading away from me.

"Oh, no," he replied, "we had a pretty good time, all things considered. It wasn't half bad."

I knew, from the size of Amundsen's ship, that there must have been some period in the two years when he was out of supplies. It was apparent that the small sloop occupied by himself and his six companions was not of sufficient capacity to carry food to sustain them for a period of two years — unless they took their sustenance in tabloid form.

"How did you get along for food?" I asked.

"Well, we took some with us, which lasted for quite a while, and when that was used up, we killed seals and walrus and Polar bears, and when we reached the Mackenzie River delta we found plenty of wild caribou."

"Did all of your men enjoy good health?" I interrogated.

Then his face changed; a tear flickered for a moment in his clear, blue eye.

"That was the only sad part of the whole trip," he said. "One of my men, and a braver fellow never stood, was left behind in a frozen grave at Herschell Island. He died of congestion of the lungs. It was to save him and to get some tobacco for the rest of the boys that I left Herschell Island last winter and went to Eagle City." He spoke of the trip as though he had crossed the street to a corner drug-store.

Amundsen's story of his trip to the South Pole was told in language which manifested the sterling qualities of the man. He told of enduring no hardships; of no thrilling adventures. His account of the journey was a statement of bare cold fact, unadorned by anything that would tend to give it dramatic embellishment or to create the impression that the venture was in the remotest degree exciting.

What better could demonstrate the superb courage and innate gentleness and kindness of the man than his journey from the mouth of the Mackenzie River to Eagle City, Alaska?

One cold February day in 1906 a huge figure of a man, blond-bearded to the eyes and somewhat gaunt from privation, but looking physically as hard as the frozen, granite hills, rushed into Eagle City behind a team of weary wolf-dogs. With hardly a pause for rest, he began to purchase medicines, tobacco, a small amount of provisions and a few delicacies.

Mistaking him for a prospector who had been out in the hills for a protracted period, people inquired where he came from, and were informed that he had been cruising in a little sloop up north, that he had put his little vessel in winter quarters at the mouth of the Mackenzie River, that one of his associates was sick, that all were out of tobacco, and that, accordingly, he had jaunted down to Eagle — a mere matter of a little more than one thousand miles on foot over an unbroken trail —

to secure the commodities needed. He might have been talking of having ridden four or five miles to a country store, so far as appearing to regard his journey as anything unusual was concerned.

Alone, save for the company of his dogs, he had made a tremendous journey in the dead of the black, sub-Arctic winter, through a country he had never seen before, and was prepared to start back in two days!

Even in Alaska, where feats of physical courage and endurance are not remarkable, Amundsen had done a wonderful thing. "Just another Swede prospector," was the general judgment of Amundsen in this northern mining camp. All Scandinavians, by the way, are "Swedes" in Alaska, and "Swede luck" is proverbial. Also parenthetically, this "Swede luck," in practically one hundred per cent. of the cases, is a direct result of hard work and determination to labour in the face of repeated failure.

By accident this tall, blond, gentle-eyed "Swede" learned that the U. S. Signal Corps had established a telegraph station at Eagle City and that it was possible to transmit a message from that point to the outside world. Thereupon he filed with the sergeant in charge a brief message, written in Norwegian and addressed to "Haakon, Christiania, Norway."

In a few hours the sides of the little log cabin, which did duty as a telegraph station, began to bulge outward with the events which were transpiring within. Presently the excitement spread to the entire camp. From the other end of the wire had come a statement from a Seattle newspaper man which made plain the real meaning of the telegram filed by the stranger. That little sloop in winter quarters at the mouth of the Mackenzie had come not from the Pacific, *but from the Atlantic.*

The great feat of discovering the Northwest passage had been

accomplished! The dream of explorers since the days of Columbus had come true! This shabby, travel-worn "Big Swede," smoking his pipe and tending his dogs and going his own modest way in camp, had done this wonderful thing! It was almost unbelievable!

Telegrams from all over the world began to pour into the little log-cabin telegraph station in the far North. They came from kings, presidents, emperors and philanthropists, from magazine editors and frantic managing editors of daily newspapers. The telegraph key clicked incessantly. Messages addressed to Captain Amundsen came in reams and bundles, and the recipient, although a man whom it is difficult to jar from his calm and unemotional manner, seemed much perturbed.

He hurriedly sent a bald, brief statement of what he and his companions had done during the two years he had been absent from civilisation. Then he harnessed his dogs and started back on the long jaunt over the frozen trail to the mouth of the Mackenzie River. Excitedly newspaper editors telegraphed to Eagle City, imploring Amundsen to send them some account of the "human interest" features of his "story," but the explorer had vanished down the trail.

Besides the message that he filed to King Haakon, he had sent a telegram, telling in the exact language of the scientist that he had navigated the Northwest passage, that he had definitely determined the location of the magnetic pole and that he had encountered a hitherto unknown race of people in the Arctic regions. Terse, modest, but backed with corroborative data, was the message. Then he faded into the wilderness of ice and snow—alone. He had to get that medicine to his sick sailor and his companions needed the tobacco. Behind him the world clamoured through the telegraph key for more news of his wonderful feat, but he had again receded into the "never-never" country, beyond the confines of civilisation.

So it was also in the bald tale of Amundsen's latest exploit, the discovery of the South Pole. One could read between the lines the unconscious betrayal of those same qualities of strength, modesty and manly solicitude for his companions that marked the Arctic journey. The tale he sent out from Hobart, Tasmania, was woefully lacking in word pictures of "purple snows" and "ghastly, frozen nights." It dealt not at all in the emotions and heart throbs which emanated from another polar explorer of recent years, and it sought not to emphasise his own courage and daring. Rather it gave the impression that going to the South Pole was not so very much of a task after all, and that much, if not all, of the credit belonged to the brave men who accompanied him.

Amundsen was not afraid that any other white man would share with him the honour of reaching the top of the earth. If there was any honour in it there was enough for all. He did not allow his companions to do practically all of the work until the goal was in sight; and then send them back. Amundsen was anxious that others should share equally with him any of the honours or encomiums, and when it came to setting up the flag at the pole all hands were permitted to assist in driving home the shaft.

While Amundsen was making his hazardous overland journey from the ice barrier to the pole his ship — the *Fram* — reached the southernmost point attained by any vessel. His joy was more in the feats performed by the ship than in what he had accomplished himself. "Farthest north; farthest south," he cabled. "Good old *Fram*!"

Helmer Hansen, that blond, laughing Viking, whom Amundsen says is the most efficient dog-team driver the world has ever known, and who accompanied his chief on both expeditions, had a whole chain of mountains named after him, and the other members of the party all stood as Godfathers for

the new-found Antarctic scenery. But we do not learn that Amundsen named anything for himself.

The fact that when this great navigator departed from the Polar regions he left behind a substantially-built, well-stocked house for winter quarters for the use of subsequent explorers, complete and ready for occupancy, even to the dishes on the table and the oil-filled lamp and matches, demonstrated that he was thoughtful of the next man. Like the true frontiersman, he believes in "leaving the latch string on the outside."

With all the world ready to do him honour, Amundsen did not come back to civilisation to write lurid and highly imaginative magazine articles or to go on a lecture platform and tell of the hardships and privations he had endured. He sent only that scientific data which would enlighten and benefit humanity, and then elected to sail straight away to the other end of the world, through Bering Straits and into the Arctic, to complete his scientific work there. The civilised world will not have the pleasure of making a hero of him until his work is done.

When he reached Hobart from the South Pole, Amundsen allowed nobody to go aboard his ship for several days. This was not because he is unkindly or inhospitable. On his arrival at Nome, several years before, he learned the bitter lesson that public admiration is not always unmixed with selfishness. He visited the city and also allowed his men to go ashore at Nome for two or three days. During this time his sloop was besieged by souvenir hunters, who stole his geological specimens, the implements used by the unknown race of people he had discovered — and which had considerable value from an ethnological standpoint — and one day he discovered an inveterate "picker-up of unconsidered trifles" sawing a piece out of the mast of his ship for a memento.

The story of this sturdy Norseman is an epic. Quite as

much in what he has not written as in what he has written does one find the measure of Roald Amundsen. By the people of the North, Amundsen is revered and respected for what he has proven himself to be: A Man.

CHAPTER XXXVII

ALASKA IN SHORT PARAGRAPHS

Four hundred tons of gold taken out of Alaska since 1883 aggregating approximately two hundred million dollars as a return for the far-sightedness of Secretary Seward who was held up to ridicule when he completed negotiations on behalf of the United States with Russia in the purchase of Alaska for a consideration of \$7,200,000.

SEARCHING through reports, bulletins, and other documents issued by various departments of government and in other places where authentic and valuable information is likely to be discovered, the following salient facts about Alaska were found to exist in 1912:

The coast-line of Alaska, measuring around all of the islands, is approximately 26,000 miles long, more than the distance around the world.

One mine in Alaska has produced seven times as much gold as the United States paid for the entire territory. This mine, the Treadwell, operates the second largest stamp mill in the world. It is exceeded in size only by the De Beers property on the Witswatersrand, South Africa.

Alaska contains approximately twenty-one million acres of coal lands. Of this amount thirty-two thousand acres were staked by the men who discovered these lands. According to the estimates of competent engineers and geologists, the coal in Alaska is sufficient to sustain the people of the United States for 5,300 years at the present rate of consumption.

The receipts of the government from Alaska have greatly exceeded the sum paid for that territory. The purchase price

of the territory was \$7,200,000, paid to Russia—some historians say as a return favour for sending a Russian fleet of warships to San Francisco at the time when their presence might have been needed. The total government receipts up till June 30, 1903 (according to the Monthly Summary of Commerce and Finance of the United States for July, 1903) was \$9,555,900. Practically all of this sum was re-expended in the territory.

During the past ten years, the commerce of Alaska with the United States—in and out—has amounted to more than \$500,000,000, several millions more than the trade of the United States with the Orient.

The mineral production of Alaska from 1883 to 1910 amounted to \$206,000,000, more than \$195,000,000 of this amount being in gold. The avoirdupois weight of gold taken out of Alaska—roughly figured—is a little more than four hundred tons. This does not include several million dollars in gold brought to the United States by Americans from the Klondike region.

Since the occupation by citizens of the United States, Alaska has yielded fishery products—walrus, ivory, aquatic furs, fur seals, whalebone and fish—to the value of \$210,000,000. The food fishes at the close of the fiscal year 1910 had netted \$129,301,482 and the fur seals \$50,366,767.

The iron for the first bells made in California by the Jesuits was brought from Alaska, when the territory was occupied by the Russians.

The gross area of Alaska is 590,804 square miles. The Governor of Alaska states that the area is 369,539,600 acres. It cost the United States government less than two cents an acre.

The area of Alaska equals the combined area of the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode

Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, West Virginia, North Carolina, South Carolina, Georgia, Florida, Mississippi, and Tennessee.

Alaska is more than twice the size of the German Empire, nearly thirteen times the size of New York State, larger than all of the states north of the Ohio and Potomac Rivers and east of the Mississippi, and is something more than one-fifth the size of the United States proper. It would make nearly five hundred states as large as Rhode Island.

A large portion of the easily accessible land of Alaska has been dedicated to solitude in the shape of forest and other reserves. The forest reserves in some places have been made to extend over agricultural and mineral land where it is impossible to find a stick of timber thicker than a man's wrist.

A large portion of Alaska lies in the same latitude as Sweden, Norway and Finland; it has a much better climate, more fertile soil, and is larger than all three of these countries combined.

Estimates made by the United States Department of Agriculture, in experiments extending over eleven years, placed the area of arable and grazing land at sixty-four million acres. This department estimates that the territory is susceptible of sustaining a population of from three to five million persons by agricultural pursuits alone.

There is more agricultural land in Alaska than in all the Scandinavian Peninsula, which supports a population of more than ten million stock farmers and agriculturalists. This is exclusive of the tremendous reindeer-grazing lands stretching northward from the Yukon to the Arctic Ocean.

Naturalists declare that more than three million caribou, or wild reindeer, can be found on the tundra on the shores of the Arctic Ocean. Economists believe that the reindeer industry of Alaska ultimately will be developed to a point



Photo copyright by Dobbs.

A GROUP OF NATIVE CHILDREN AT NOME.—A NATIVE VILLAGE, UPON THE ARRIVAL OF A SCHOOL TEACHER OR MISSIONARY, USUALLY IS IN A HIGHLY UNSANITARY CONDITION, BUT SOON A CHANGE IS BROUGHT



Photo by Lomen Bros.

PRETTY "SUNBONNET" GIRLS AND "OVERALL" BOYS OF THE NOME PUBLIC SCHOOL

where it will become a most important factor in the affairs of the so-called meat trust.

Horses turned loose in the White River Valley ten years ago and left without care, have not only survived the many hard winters, but have greatly multiplied in numbers. These horses mingle with moose in the spring for mutual protection against wolves and other predatory animals.

Alaska has the highest mountain — Mount McKinley — on the continent of North America. Its utmost altitude is 20,464 feet.

The glaciers in Alaska, many of which are easily accessible from the coast, and some of which can be reached by railroad, are much larger than any other glaciers in the world, unless it be those recently discovered near the South pole.

The scenery encountered on the journey through the Inland waters of Alaska compares quite favourably in majestic grandeur and rare beauty with the fjords of Norway, and Alaska's mountain scenery is said to be quite equal in magnificence to that of Switzerland.

The Yukon River has a total length of nearly three thousand miles, and it is about the fifth largest stream in the world. It is navigable for small river vessels for a distance of about twenty-four hundred miles.

The copper product of Alaska for the year 1911 was worth \$2,830,000, an increase of more than four hundred per cent. over the production of the previous year.

Alaska contains the only tin mines of any importance on the continent of North America.

Besides gold, copper and tin, Alaska produces silver, gypsum, marble, graphite, petroleum, mica, lime, and mineral waters of various kinds. In metals and minerals prospectively valuable, but not produced in commercial quantities are tungsten, lead, arsenic, antimony, manganese, bismuth, quick-silver,

corundum, slate, zinc, and garnets; and many other minerals have been found.

Great iron deposits, both magnetite and hematite, have been discovered in many places, and optimistic geologists predict that when the bituminous coal of Alaska is made available to use, many steel mills will be established in the territory.

Alaska was the first country in the world to use the wireless telegraph system for commercial purposes.

Alaska, according to government geologists contains more coal than Pennsylvania and West Virginia combined.

The population of Alaska as given by the last census is 64,356, made up of 36,555 whites, the balance being composed principally of natives and a few Chinese and Japanese engaged in the fishing industry.

The population of Alaska increased only 767 during the past ten years. There has been a steady decrease in population since the territory was covered with forest reserves.

The principal industries of Alaska at the present time are fur hunting, fishing, and gold and copper mining. It is generally conceded, however, that coal mining, farming, and stock raising will be added to these industries within the next five years.

Alaska is one of the few parts of the United States that offers the sportsman a reasonable degree of certainty of securing moose, caribou, mountain sheep, mountain goat, and bear trophies. The largest and most ferocious animals found in the United States to-day are said to be the brown and Kodiak bears which inhabit the Alaskan Peninsula and the adjacent islands.

The only commercial telegraph and cable system operated directly by United States government ownership is in Alaska.

It is estimated by the Bureau of Fisheries that twenty million dollars have been invested in the Alaska fishing industry.

The cod banks of Alaska are said by the United States Fish Commission to be among the finest in the world. The same is true of the halibut banks.

The herring which swims the waters of Alaska is said to be quite the equal of the Norwegian variety.

Alaska possesses the only disappearing and re-appearing islands in the world. The topography of the Bogosloff Islands has been changed many times during the past twenty-five years. New peaks, at irregular intervals, thrust themselves up, through clouds of fire and steam, from the sea, while others subside beneath the waters.

Alaska contains about twenty active volcanoes.

The Alaska cable occasionally has been damaged by subterranean seismic disturbances.

Alaska contains a tremendous amount of timber, but a large proportion of it has very little other commercial value than for making wood pulp.

There is but one life-saving station in Alaska. It is located at Nome, on the coast of Bering Sea. During the five years since it was installed its members have gone to the relief of 287 ships in distress and have rescued many persons from drowning.

The only forms of business in Alaska which are exempt from the federal taxation are those of the newspaper and the barber shop.

Alaska has no vote in Congress, but is represented by a delegate who has the privilege of introducing bills for which he cannot vote.

Twenty-six newspapers are published in Alaska, many of them receiving telegraphic despatches daily from the outside world.

Cattle raised on government stations in Alaska under the Department of Agriculture are wintered with less mortality

than in the States of Montana, North and South Dakota, or Kansas.

The temperature at many points in Southeastern and Southwestern Alaska is not so cold as at Washington, D. C., or New York City in the winter, nor as warm as either of these places in the summer. The atmosphere in this section of Alaska is tempered by the Japan current. East of the Coast Range, however, the thermometer drops to seventy-two degrees below zero in the winter and occasionally rises to one hundred and six degrees in the shade in summer. A temperature of one hundred and six degrees in the shade was recorded at some of the settlements on the streams entering Kotzebue Sound and the Arctic Ocean in 1911.

Among the edible berries found in Alaska are wild huckleberries, red and black raspberries, red and black currants, gooseberries, high and low bush cranberries, salmon berries, strawberries, in countless trillions; juniper berries, Oregon grapes, moss berries and many other varieties of wild fruits.

In edible vegetables Alaska grows native celery, thyme, sage, onions, sour-grass, rhubarb, and other varieties. In wild grasses it produces every year, waiting for those who will harvest it, thousands upon thousands of tons of wild rye, red top, and many other grasses all of which make good hay.

The rivers of Alaska teem with edible fishes of various kinds, the principal specimens being salmon, greyling, many kinds of trout, and white fish.

Alaska's game birds include ducks, geese, swan, snipe, plover, ptarmigan, grouse, partridge, and many other species.

At the close of the fiscal year, 1911, Alaska's account in the Treasury Department, when epitomised, showed the following result: Debit — Purchase price \$7,200,000; cost of maintenance over receipts in federal treasury for forty-two years, \$8,300,000; total debit \$15,500,000. Credit — Min-

eral resources \$225,000,000; fish and furs, \$210,000,000; other resources \$25,000,000; total receipts from Alaska \$460,000,000; profit to the people of the United States, \$444,500,000.

Alaska was bought for \$7,200,000. It already has paid to the people of the United States in products, dividends approximating six thousand three hundred per cent. on the investment. It is worth to-day not millions, but billions.

Many of the Alaskan placer regions are in the process of transition to fields for both placer and quartz mines. Twelve quartz mills have been imported into the territory within the past year.

Alaska's northern placer fields offer an excellent opportunity for dredging enterprises, twenty-six of these gold ships having been installed within the past two years.

The Easternmost point of Alaska is less than eighty miles from the shores of Siberia, the Westernmost point of Asia. When the atmospheric conditions are favourable Siberia can be seen with a strong glass from the Cape Prince of Wales, the Easternmost point of Alaska.

Coaling stations established by the government on the shores of Alaska's mainland are more than 2,500 miles nearer to the Philippines than the coaling stations at Mare Island navy yard.

Nome, the Easternmost city of Alaska, is six thousand miles from New York and there is a difference of six hours in time.

Northern Alaska affords one of the few places where the hunter may get a shot at polar bears and walrus.

Statistics show that in Alaska there is less crime per capita than in any state in the union.

Alaska has many warm medicinal springs, and ferns and wild berries grow profusely in their proximity.

There are many missions in Alaska and every town has one or more churches.

Alaska has many fraternal societies, the leading ones being

the Arctic Brotherhood, the Elks, Masons, Eagles, Odd Fellows, and other well-known societies have branches there. The members of the Mystic Shrine have made two pilgrimages to Nome and other cities in Alaska.

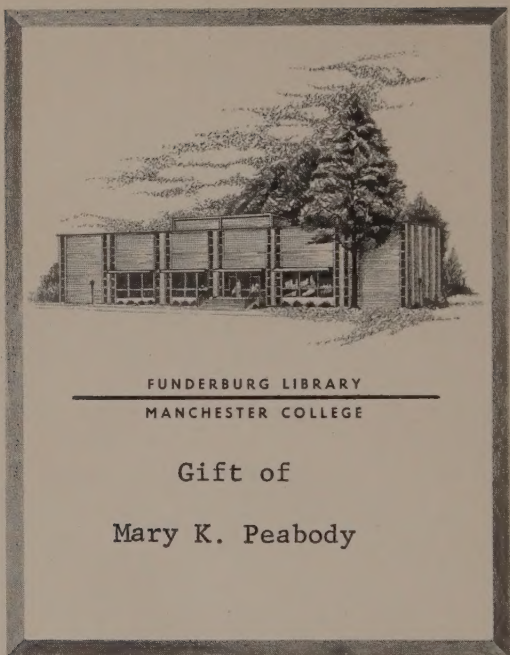
Alaska does not tolerate open gambling. Gambling was closed down tight in the territory in 1906.

During the summer, Alaska, even as far north as the Arctic Ocean, is carpeted with the most daintily coloured and beautiful wildflowers, the principal specimens being wild-briar roses, forget-me-nots, blue and yellow violets, irises, poppies, butter-cups, geraniums, anemones, blue-bells, daisies, fire-weed, all the blooms of all the berries, and many others.

Alaska, acre for acre, is believed by experts to be more valuable than many of the states in the Union. Its latent water-power energy is incalculable.

The development of Alaska's resources is hardly yet begun, nor have all of its possibilities been discovered. Only two fifths of the territory has been mapped, and many portions of it have never been trodden by the foot of a white man. Practically all its wealth of forest, fisheries, and minerals is still untouched by commerce and represents millions of dollars many times multiplied.

THE END

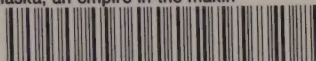


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